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THE ECONOMICS OF INDUSTRIAL MEDICINE *

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Medical Director, Industrial Health Conservancy Laboratories

CINCINNATI

The American manufacturer, legally or illegally, entered on the practice of medicine in the decade between 1910 and 1920. Without qualifications or desire, he shouldered this task through sheer necessity. Preferring to stick to his problems of production and sales promotion, he was nevertheless confronted with the acts of state legislators, who had created industrial liability laws saddling him, the employer, with much increased financial responsibility for industrial injuries, and in some states for occupational diseases.

Prior to 1910 some small amount of industrial medicine was applied, and today four states still have no compulsory employer liability acts; but the decade specified saw the majority of our states enact laws of this character. These laws vary from state to state as to the extent of provision for medical and surgical relief, moneys for lost time from work, moneys for permanent disability, and so on. The general trend of all this legislation has always favored the worker, who often was absolved from contributory negligence while the employer was penalized for proved negligence. These state laws further vary as to the form of insurance funding. Some states created a state monopoly, procuring and administering the funds; others permitted carriage through private insurance companies; still others permitted a choice between the two; and again others might arrange for self insurance, provided the individual factory could give adequate bond or other satisfaction to the state, guaranteeing adherence to the state's stipulations. All agreed in one respect—the manufacturer footed the bills.

Endless rate classifications were compiled for all industries, based on the probability of accidents. At the present time, rates in one state vary from three cents per hundred dollars of employee payroll for office workers to twenty-six dollars for building wreckers. It follows, therefore, that a manufacturer having a monthly payroll of $83,000 (approximately 625 employees earning an average weekly wage of $30) and taxed at the rate of $2 per hundred dollars of payroll (which may be slightly above the average) pays about $20,000 in the course of the year for his compensation insurance. This is not all: in some states a bad experience in terms of accident severity or frequency may lead to penalties without limit, so that the basic payment of $20,000 yearly may be raised to double that amount or more.

When the manufacturer was first faced with this new problem, he attacked it almost entirely as an economic matter. Some humane considerations were honestly injected, but primarily the desire was to meet these new and expensive requirements with the minimum outlay of money. Experience soon taught him that injuries are costly; that their prevention costs considerably less; but most important of all, that both accident frequency and severity might be appreciably reduced. At this point the safety movement was born. This birth was fundamentally related to compensation responsibility. At this point it might be well to quote from Alexander,[1] a spokesman for the employer:

> This legislation, particularly the workmen's compensation laws, has stimulated employers to the realization that the prevention of accidents is a cheaper and more satisfactory solution of the problem than the payment of accident benefits. It may truly be said that the economic motive for safety provisions received a decided impetus in the compensation legislation. This legislation for the first time placed a definite monetary value upon the more common injuries suffered by workmen in various types of employment. The employer, having been shown the probable cost for such injuries, was stimulated to reduce these costs by proper attention to accident prevention.

Actual experience proved that it was not unusual for the frequency of accidents to drop from 75 to 85 per cent as a result of sustained and proper safety activities. The elimination of two thirds of the severe accidents in industry has yielded enormous savings in insurance premiums and in life and limb. This economic betterment for the manufacturer was in no small degree effected at the expense of physicians in industrial communities. In this splendid development the victim, the physician, has no basis for protest.

Early in this era of adjustment to these new conditions, the manufacturer made another important economic discovery. He found that the indiscriminate handling of real or alleged industrial injuries and occupational diseases, by physicians chosen at random by himself or the individual patient, eventuated in a total cost per case of nearly double that required for all services carried out under a unified service, by a thoroughly competent physician, chosen with full consideration of the patient's interests. Unlike some of the medical profession itself, which sees, in a medical license to practice, a great common denominator—making all physicians equal and immune to the admission that one may be better than another—the manufacturer is willing to recognize that physicians, like all other human beings, are not standardized as to ability or integrity, and applies this belief in his honest endeavor to serve his stockholders and his valued employees. While the laws of most states provide the free choice of physicians on the part of the person injured in

* Read before the Annual Congress on Medical Education, Medical Licensure and Hospitals, Chicago, Feb. 15, 1932.

1. Alexander, M. W.: Need of Safety from the Employer's Point of View, Industrial Safety, Annals of the American Academy of Political and Social Science **123**, 1926, number 212.

industry, the manufacturer is loath to delegate the conduct of this important item of his affairs on a helter-skelter basis to any and every person in the community possessing a license to practice medicine.

In support of his position, the manufacturer points out a number of items regarded by him as significant:

A. Accidents in his industry may occur at any hour of the work day, and for the greater portion of the day the practitioner is away from his office on calls at homes or at hospitals.

B. The time lost in going to and from the offices of various physicians, and the time consumed in waiting turns for treatment, involves an intolerable money loss due to idle machinery and lost time.

C. The periods of total disability allowed by many physicians are often unwarranted, as judged by other physicians. These are expensive and create discord if protested.

D. Dressings applied by many physicians for patients returned to duty frequently are dangerous and lead to further accidents.

E. Infection rates are high in proportion to the amount of uncontrolled medical care.

F. Unwarranted diagnoses, involving the plant operations as a cause, are often made in connection with injuries or disease states arising apart from work. One manufacturer cites a compensation claim for urticaria, which was diagnosed as "brass poisoning" when the worker was engaged in some such occupation as tailoring.

G. Records required by law are assembled with the greatest difficulty when the entire group of physicians of the district participate in their compilation.

H. The general practitioner often feels it to be his sole duty to advocate the cause of the patient in disputed matters, instead of acting as the neutral umpire, serving the two interests equally and without prejudice.

I. The general practitioner often refuses information necessary in rearranging the disabled employee's work. Haughtily, the physician in charge may state that the patient's condition is a matter between himself and his patient.

J. The majority of industrial injuries in any plant are trivial, not justifying a search for the family physician, but calling for minor emergency care as a preventive against infection. This type of work is more satisfactorily done on the factory premises.

K. Physical examinations may be required by law and are desirable in any event. These are best made by a physician not of the applicant's choosing. Physical examinations are of most worth when procedures are standardized.

L. Many medical problems in every plant do not concern themselves with persons but with conditions, such as occupational disease hazards, ventilation, seating and noises.

M. Some states require by law the maintenance of a dispensary and the rendering of medical services on the plant's premises.

Confronted with endless problems of this character, the business and economic instincts of the harassed manufacturer prompted the creation of the plant medical department to function alongside other necessary auxiliary departments, such as auditing, purchasing and analytic. Out of this background, industrial medicine as we know it today was born.

It is the intent of all the foregoing to portray a very real economic need in industry for the services of the physician working on the plant's premises and intimately in touch with the plant's operations and work force. In the meeting of this need, both the industrialist and the physician chosen have often made glaring and inexcusable blunders, costly to the cause of industrial medicine at its best and unfair to the workers, to the medical profession, and not infrequently to the interests of the manufacturer. Some of these evils are now recited to serve in contrast to the possibilities of good industrial medicine later to be presented.

THE EVILS OF INDUSTRIAL MEDICINE

(*a*) The fundamental evils of industrial medicine, as practiced, center about the lack of qualifications of the physician in charge. The responsibility rests partly with the manufacturer in his choice of a physician, partly with the medical schools and partly on the absence of determining bodies governing fields of special practice. Over and over young physicians, on finishing their internship, come to me with this statement: "I have just finished my year in the hospital and probably will have a hard time making my way for a while, unless I can get a factory. Will you help me?" This seems to be the medical profession's idea of industrial medicine. This young and possibly well trained physician is probably far better qualified to undertake brain surgery than a commendable form of industrial medicine. He is forbidden the former but condoned in essaying the latter.

The unusual qualifications required in the industrial physician were discussed by me[2] at the Annual Conference of Secretaries of Constituent State Medical Associations in Chicago in November, 1929. Even among industrial physicians, some lack of unanimity exists as to desirable qualifications, traits and training for their specialty. I quote in effect from Dr. Volney S. Cheney,[3] secretary of the American Association of Industrial Physicians and Surgeons, that the industrial physician's special qualifications, placing him apart from the general practitioner of medicine, are not so much superiority in medical matters as in matters unrelated to medicine but to industry.

With further reference to this matter, Dr. Don B. Lowe,[4] president of the American Association of Industrial Physicians and Surgeons, has said:

Many will not agree with me in my viewpoint and consider it narrow. Far and wide, for a long period of time, the industrial physician and surgeon has been supposed to be a combination civil, mechanical, heating, lighting, ventilating and chemical engineer; economist, welfare worker, athletic director, public health officer, insurance expert, and sanitary policeman, not to mention a few other conferred titles. It is my opinion that few of us are qualified in this way, and that it will be far more beneficial to industrial medicine if we confine our activities to the one thing we were trained for, and that is the practice of medicine.

The view expressed by Cheney, rather than that of Lowe, is implied in an earlier paper by Watkins,[5] who says:

It took the medical profession quite a while to realize that the possession of a sound medical education did not, per se, qualify a man adequately to carry on the duties of a health officer. The profession has likewise been somewhat slow to recognize that the acquisition of sound surgical technic or skilled diagnostic ability does not qualify a man to carry on the duties of an industrial physician.

The chairman of the Section on Preventive and Industrial Medicine and Public Health of the American Medical Association, in Philadelphia, last year, said:

Although there are able and experienced industrial physicians competent to deal with any situation which may confront them, one still finds all too frequently physicians who have no real appreciation of the nature and effect of working conditions and only an imperfect conception of pathology, symptoms, treatment or prevention of specific occupational diseases.

2. McCord, C. P.: The Present Status of Industrial Medicine, A. M. A. Bull. **25**: 11 (Jan.) 1930.
3. Cheney, V. S.: Cooperation Between the Family Physician and Employees' Benefit Associations, Proceedings of (Employees Benefit Association Section) Nineteenth Annual Safety Congress, National Safety Council, Chicago, 1931.
4. Lowe, D. B.: Industrial Health Digest **1**: 2 (Dec.) 1931.
5. Watkins, J. A.: The Training of Industrial Physicians, Ohio State M. J. **16**: 903 (Dec.) 1920.

(*b*) Some physicians in industry, either at the instigation of their employers or because of their own misinterpretation of their function, wage warfare on the workers with respect to medical matters, seeking to defeat every possible claim through technicalities, antagonizing the worker who insists on his family physician in the event of industrial disability, procuring the discharge of workers whose medical record is lengthy, undermining the relations between the worker and his family physician—in short, a near-sighted all consideration for the employer and none for any one else.

(*c*) A third class of questionable practices on the part of the so-called industrial physician may be found in the use of an industrial connection to build up a private practice. The greater number of physicians in industry are there on a part time basis. During other hours, private work is carried out like that of other physicians in the neighborhood. It is a very common practice to divert all possible patients, with conditions unrelated to work as the cause, to the private office, using whatever pressure may be necessary to accomplish this. Rarely, and fortunately so, physicians will agree to undertake medical work in a factory without any compensation from the manufacturer for the purpose of gaining access to large numbers of persons who may be importuned to seek his services on a private basis at his personal office. In the recent publication of the National Industrial Conference Board,[6] in one detailed record of the estimated value of medical services in a manufacturing plant of 500 employees it is noted that the two physicians were paid $603.25 by the company as a portion of their salaries for the care of employees' families, and that other small fees were collected from the families themselves, for major operations, minor abrasions and broken bones, and that finally this led to a saving of $8,675 for the workers in this factory. Let no one be persuaded that this is any part of praiseworthy industrial medicine.

(*d*) A further objectionable practice, but far from exhausting the possibilities of improper industrial medicine, is the misuse of the medical department for direct profits to the manufacturer. The physician, paid a fixed salary by his employer, may receive from compensation funds and insurance companies checks for his services aggregating a larger sum than his salary. These checks when endorsed to the employer constitute in effect a profit. Under these circumstances it becomes difficult to maintain that medicine for profit is not being practiced by proxy. In this situation, either the physician is paid inadequately, or the accident prevention measures are inefficient, or both. By custom, criticism of directly profiting from monetary returns from the doctor's work is avoided by applying all such moneys to nursing, safety or personnel services.

It is now admitted that the greater quantity of so-called industrial medicine embraces one or more of these specified objectionable characteristics, or others, for which there can be established no honest defense. In the same breath it is maintained that this is not industrial medicine as conceived by those familiar with the genuine problems involved. The low plane on which this form of medicine is widely conducted is due to four major causes:

1. The medical profession itself is hostile toward industrial medicine in its entirety. The medical profession has consistently failed to discriminate between the real and the spurious in industrial medicine. Lack of cordial approval has served as a deterrent to many good physicians, who might have elected this specialty. As a result, the rank and file of physicians doing medical work in industry are mediocre. There are, however, many notable exceptions to my sweeping statement.

2. The manufacturer, in his economic approach to his medical problems, often carries this idea over to the salary and conditions of work under which his physician is expected to perform his duties, with the result that only physicians of low caliber are attracted.

3. Medical colleges, with few exceptions, are so influenced by the hostility of the medical profession toward industrial medicine as to minimize all training in the preparation of students for this work, or in the idea that such work is a specialty calling for selective training after graduation.

4. Industrial medicine suffers through the absence of regulatory measures, other than a license to practice, for those who essay to undertake this specialized work. "Certificates of capacity" to practice industrial medicine, issued by competent boards, would be a most salutary innovation. Industrial medicine as a specialty will make little progress until there is greater concern as to who is competent to engage therein. There is no more reason to believe that all industrial medical work may be subjected, at any early time, to special control measures, than that all tonsils will shortly be removed only by those physicians holding certificates of capacity for throat surgery. No less, much may be gained if, in some way, fair minded certification of capacity may come to serve as a badge of superiority for physicians working in industry, who may attain it. By this method the high type of industrial physician may be set apart from the larger group of physicians who are industrial physicians only by self anointment.

At this point I hope to challenge your interest by pointing out that the attitude of the medical profession toward industrial medicine, and the entry of so many inferior physicians into this field, have already jeopardized many of the real opportunities for the physician in industry, apart from emergency relief and surgery. The industrial physician has been so busy squirming under the lash of the medical profession's criticism and defending his position that he has functioned uncomfortably in his very commendable situation. While the medical profession has been fiddling over the faults of industrial medicine, the plums of opportunity have fallen into other laps. Instead of organized medicine creating, guiding and controlling the lines along which development should have taken place, we find most of the work, good or bad, in this field (except for emergency relief and surgery) carried out by governmental departments, insurance companies, statisticians, sanitarians, hygienists, psychologists, pseudopsychiatrists, chemists, safety engineers, optometrists, food faddists, efficiency experts, engineers and nurses. Some considerable pain should be produced by the statement that the doctor in industry sometimes functions under the nurse as the head of the department, and often under the safety engineer. Except for those matters that require legal medical license, much that is good in industrial medicine threatens to pass out of the rightful hands of the medical profession. This plight is suggested by the National Industrial Conference Board's recent publication "Medical Supervision and Service in Industry":

> A gradual shifting of emphasis from the curative phases of medical care to preventive work and health education is evident. With this development have come corresponding changes in the personnel and equipment of medical departments and in the average cost per employee.

This very book on medical supervision in industry serves as a dramatic example of the physician's "apartness" from this field. It was prepared by a group of laymen, having as its principal advisers a committee composed of thirteen other laymen and one physician.

6. Medical Supervision and Service in Industry, National Industrial Conference Board, Inc., New York, 1931.

INDUSTRIAL MEDICINE AT ITS BEST

If, for the purposes of this paper, the present upset in industry may be regarded as temporary, industrial medicine is now needed more than ever before. Heretofore this form of medical endeavor has been most successfully applied in organizations having more than 2,000 employees. Under such circumstances the per capita cost is sufficiently low to warrant an adequate staff and extensive equipment. Unfortunately, of the total number of plants in this country, approximately 99 per cent employ less than 500 workers; and 75.9 per cent of all workers may be found in plants utilizing less than 1,000 employees. It is now being discovered by an ever increasing number of manufacturers that in the range between 250 and 1,000 employees, and particularly between 500 and 1,000 employees, it is economically sound to maintain medical departments utilizing full time physicians.

In addition, the increase in need for medical guidance grows out of the marked extension in the use of new raw materials. One example will clearly present the situation:

A few years ago dry cleaning of garments was largely done with gasoline as the deterging agent. At the present time dry cleaning may involve the use of trichlorethylene, ethylene dichloride, carbon tetrachloride or Stoddard's solvent as major agents; in lesser use as spotting agents may be found hydrofluoric acid, methyl alcohol, aniline, nitrobenzene, carbon bisulphide, sodium carbonate, caustic alkalis and potassium binoxalate, among other toxic substances. Every other industry is undergoing technological changes of this sort.

This situation does not in itself constitute the essential need for the services of physicians. Special problems of this character, arising perhaps from month to month, might be met by extra-factory medical services. The Louisiana creoles had a proverb which runs: "Not just once does the ox need his tail to brush away the flies." So in industry, not just once do problems call for medical consideration. The very foundation of this form of medicine is the day by day services to employees, in order that they may remain on the job as wage earners and producers. Two major divisions of endeavor exist. The first is the protection of the worker against the harm lurking in work materials, processes, or other workers; the second is the elimination of inefficiency attributable to sickness or other abnormal physical or mental states in workers. It may be pointed out at this point that the industrial physician must rigidly establish himself in an impartial position midway between the employer and the employed, and that his prime duties include:

(*a*) The care or supervision of those pathologic states for which the employer is legally responsible.

(*b*) The physical examination of applicants for work and, at intervals, those already at work.

(*c*) The maintenance of satisfactory sanitary and hygienic work conditions.

(*d*) The protection of workers against the spread of communicable diseases in the factory.

(*e*) The care and supervision of minor abnormal physical conditions unrelated to work as a cause, to the end that the affected worker may be kept at his duties.

(*f*) Cooperation in the placement of workers at the tasks for which they are physically and mentally suited.

(*g*) The education of the work force in matters of health, sanitation, hygiene, and the like.

(*h*) The giving of advice to workers regarding health matters unrelated to work, the treatment for which is properly within the domain of the family physician or the specialist, and the establishment of relations with the family physician for the purpose of handling these private matters to the best interests of all concerned.

To the uninitiated it may seem impertinent that the defective vision of a worker should be made an issue by the employer (this by way of example of scores of physical or health conditions, unrelated to work as the cause, in which the employer has much at stake). Defective vision may truly be the worker's private misfortune, but it becomes a misfortune to the employer if this poor eyesight leads to the daily spoilage of 5 per cent of his raw materials, or if this poor vision leads to injury to himself or to other workers. Some 20 per cent of all injuries occurring in industry are the result of failure to see the danger promptly or adequately; that is, poor vision or poor lighting. In any such situation as this, three avenues of control offer themselves to the employer:

1. He may discharge the employee as a menace to others in the plant, and a source of too much wastage. Without argument, this is the poorest possible way to meet the difficulty.

2. He may demand that the workman seek refraction and the fitting of glasses prior to any further work. Part of the time this is a good solution. The workman goes somewhere and an arrangement is worked out whereby a correction is provided. At least half the time this plan fails, either because the worker has no family physician to advise him or because he falls into the hands of the ever-present incompetent provider of glasses, or because he is unable to pay for glasses.

3. He may direct the plant physician to investigate the workman's inefficiency and remedy the cause if found. In turn the physician may refract or procure a refraction and see that proper glasses are obtained. If the workman is truly unable to expend the full amount necessary, the industrial physician will assume responsibility for the purchase and make fair deductions from the worker's pay envelop over several weeks' time.

Endless variations in this type of problem should lead to the passing of from 3 to 6 per cent of the plant's personnel through the medical department's hands on an average day. The values that reside in this type of work are about equally divided between the employer and the employee. It is ordinarily true that, before the employer may profit, the workman must have earlier profited. Furthermore, good industrial medicine works to the advantage of the qualified neighborhood physicians. Good industrial medicine contemplates no home care for conditions unrelated to work as the cause. The laws of most states provide a free choice of physician even for those conditions for which the employer is financially responsible. The good industrial physician respects the spirit of this provision.

If conducted along proper lines, industrial medicine will inevitably lead to a far greater quantity of extra-factory medical service for the private practitioner than would arise in the same group of workers left to their own devices. Factory physical examination and routine consultation with the factory physician will unfailingly disclose large numbers of conditions not properly falling within the activities of the plant physician. Without enumerating the great variety of these states, I will say that the work of competent physicians in any industrial community should be augmented rather than restricted by the work of the industrial physician. Instead the industrial physician being regarded as a menace, he should be accepted and cooperated with as a proper source of legitimate cases, the adequate treatment of which will well serve the interests of the

worker, his particular industry or the public good, to say nothing of enhancing the economic status of the physician.

OPPORTUNITIES FOR THE MEDICAL PROFESSION IN INDUSTRIAL MEDICINE

Despite immediate conditions in industry, there is no substantial reason to believe that this country will not regain its industrial prosperity. Forty-eight million persons will again become gainfully employed. Adequate industrial medicine and sanitation is now applied to not more than 4 per cent of this country's industries. No less than 5,000 factories and mercantile establishments in the United States are of such size as to warrant the full time services of one or more well trained and well paid physicians. This number does not include as "factories" such enterprises as mining, transportation, forestry industries, communication, public service, banking and education. Some doubt may exist that the physician in a mining community, serving the entire population, or the railroad surgeon, doing only traumatic surgery, should be classed as industrial physicians. However, if it may be agreed that such borderline activities should be so recognized, it is reasonable to believe that no less than 12,000 physicians may advantageously be utilized in this branch of medicine. The term "advantageously" as just used embraces the interests of the worker, his employer, the industrial physician, and the medical profession as a whole. Fifty-four million dollars, the approximate sum annually paid as salary for this potential group, is but a small fraction of the monetary savings that their highly qualified services may effect in industry. If it is agreed that a prime function of the medical profession is to apply to the public those health and life conserving measures proved by scientific endeavor to be efficacious, it must be recognized that the organization and requirements of industry afford one of the few sustained opportunities for the legitimate exegesis of medicine to adult groups.

Past experience in industrial medicine has now developed its proper domain. The health problems of workers entail an annual loss of eight billion dollars. Scores of industries are maintaining medical departments conducted along lines conducive to the elimination of their share of this eight billion dollar proposition. This group, however, forms but a small minority, and the vast industrial interests of this country are sorely lacking in these facilities. This sort of good industrial medicine is little known to the manufacturer or to the medical profession. The spurious variety has blinded both groups. The manufacturer has often failed to find much value in the medical services rendered in his factory. He is unimpressed and is turning to sources other than medical for near medical service. The greater number of services carried out in industry by these professions and trades bordering on medicine (already listed) are often properly within the scope of activities of the well trained physician.

Recently, a certain group of manufacturers within the lead industry wished to make an elaborate study of lead poisoning among their employees. Instead of turning to the medical profession for trustworthy services, this study was delegated to a vital statistician. If we are truly interested in the economics of the medical profession, we should pay a little more attention to the harvest that is being reaped by these invaders.

Whether or not the medical profession wishes, economic pressure will determine that industrial medicine, or a substitute, shall continue. The medical profession must choose between its generation-old passive resistance or open hostility, and the fostering of industrial medicine along proper lines. A continuation of the former attitude will see the cream of industrial medical work falling into other hands, with the physician playing an insignificant rôle at the periphery of the wheel of action. Open advocacy of industrial medicine at its best, and condemnation of the spurious variety, will give industrial medicine a life saving impetus during the next upward swing of industrial activity.

The creation of suitable machinery for the fostering of the good elements that have been described, and the elimination of the many readily discernible evils, is regarded as difficult. It must be recognized that much medical work in industry is carried out by physicians whose willingness to cooperate with local medical societies has been stultified, that no special organization in this field of medicine adequately reaches and influences the majority of physicians rendering some service to industry, and that licensing groups are not clothed either with authority or with desire to function as rehabilitators of industrial medicine. If these contentions may be granted, the American Medical Association, the supreme medical organization in this country, must be looked to for leadership in this situation. It is to be hoped that this organization (the American Medical Association) may create a commission, or the equivalent, under some other name, or use some personnel unit already created, for the stabilization and elevation of industrial medicine. It is maintained that such a commission, fully conversant with all angles of industrial medical activities and without any legal authority, may forcefully use moral pressure and suasion to the end that industrial medicine may come to occupy a position of pride in medical organizations—be they local, state or national. Such a commission should give thought to the practicability of certification of qualified industrial physicians, to the peculiar ethical problems involved in industrial medicine, to commendable standards in industrial practice, to the economics of this phase of medicine, to the desirability of increased authority for licensing bodies with respect to practice in specialties, including industrial medicine, to increasing the influence of special organizations in this field, and to other items perhaps no less important.

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Science and the Practice of Medicine.—One hears much discussion, nowadays, about science and the humanities, science and the practice of medicine, and science and the art of medicine; but it must occur to any one who considers the matter that misconceptions have arisen from placing these words in such sharp contrast. Their use in this particular manner does not imply, to most people, a close relationship of science, art and the humanities to medicine but invites the assumption, if not the conclusion, that there are such fundamental differences in the intellectual processes concerned that science, art and the humanities all form roads of approach which inevitably lead to divergent views of medicine in general. An effort has been made by many to refute the suggestion that science is in discord with the humanities and art, but the mere fact that such an attitude of mind exists, and needs refutation, is good reason for taking every opportunity to support those who, both by word and deed, have shown that science and art, the humanities and medicine, are in many aspects closely related in their development. It was Osler who said, "Twin berries on one stem, grievous damage has been done to both in regarding the Humanities and Science in any other light than complementary."—Longcope, W. T.: Methods and Medicine, *Bull. Johns Hopkins Hosp.* **50**:4 (Jan.) 1932.

INTRAVENOUS TREATMENT IN EXPERIMENTAL TRICHINIASIS *

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The diagnosis of trichiniasis in man is usually not established until at least one to two weeks after infection, at a time when invasion of the muscles by the young larvae has already begun. In the treatment of the disease it would therefore seem desirable to employ an agent which would destroy either the young larvae circulating in the blood stream or those that had already reached the muscles and were still developing. From time to time, reports have appeared in the literature recommending such drugs as neoarsphenamine and antimony and potassium tartrate as being of value in the treatment of this stage of trichiniasis. In almost every instance, however, the reported treatment involved only a small number of cases, often only one, and was in no way sufficiently controlled. Since the mortality rate in trichiniasis is only about 6 per cent, nearly 95 per cent of patients recover without treatment. Hence it is impossible to evaluate correctly the efficacy of these drugs in the treatment of a limited number of cases. In view of this fact, it was thought desirable to test the value of various drugs mentioned in the literature and others, in the treatment of experimentally induced trichiniasis in animals.

During the course of this work, Africa and Lucker,[1] in 1931, published a preliminary report indicating favorable results with acriflavine base in the treatment of experimental trichiniasis in rabbits. As a part of this work, therefore, two experiments with this dye were undertaken.

METHODS

Rabbits were selected as the experimental animals because they are susceptible to trichiniasis and because they can usually be subjected to repeated intravenous injections. In each experiment, a series of animals were given a known number of decapsulated larvae by means of the stomach tube. The larvae were obtained by digesting muscle containing encysted larvae in a medium composed of 0.5 per cent hydrochloric acid and 1 per cent pepsin. The strain of Trichinella spiralis was originally obtained in March, 1930, from the diaphragm of a child who died of trichiniasis in the Rochester Municipal Hospital. In general, it was attempted to give the rabbits a dose of larvae that would prove lethal from four to five weeks after infection. Half of the animals were given treatment, while the other half were kept as controls. The animals were starved for twenty-four hours before infection in order to insure uniform conditions at the time the larvae were given. In spite of this precaution and notwithstanding the fact that approximately the same number of larvae from the same suspension were given to each animal there was considerable variation in the amount of resulting muscle infection. Since in any one series the rabbits were always of approximately the same age and weight, this variation can be explained only on the basis of biologic variation from animal to animal.

After extensive trial it was found that the most suitable method for estimating the degree of muscle infection was the digestion of representative portions of the carcasses of the rabbits. Fifty grams of muscle, representing 3 Gm. of diaphragm, 4 Gm. of tongue, 5 Gm. of masseter, 8 Gm. of abdominal, 10 Gm. of intercostal, and 20 Gm. of thigh muscle, was completely digested, and the number of larvae were estimated by a dilution count. A more complete description of the methods used has already been described by McCoy.[2] In heavily infected rabbits, several hundred thousand larvae were usually obtained from the 50 Gm. of muscle, a number that is considered much more adequate for estimating the amount of infection than that which can be obtained in direct muscle counts.

NEOARSPHENAMINE

In 1914, Van Cott and Lintz [3] reported two cases of trichiniasis treated in the fourth and fifth weeks of the disease with arsphenamine and neoarsphenamine. The mortality was 50 per cent. In 1916, the McNerthneys [4] reported the recovery of a patient in the fifteenth week of the disease after an injection of 0.06 Gm. of neoarsphenamine. In 1924, Algora y Nieto [5] reported a series of seven cases treated with from one to three injections of 0.45 Gm. of neoarsphenamine. All the patients recovered. An attempt was therefore made to determine the value of intravenous neoarsphenamine in experimentally infected rabbits.

EXPERIMENT 1.—*Procedure.*—Six rabbits, weighing approximately 3.5 Kg., were infected with 26,000 larvae each, by stomach tube. This dose is quite insufficient to cause death. Seven days later, three rabbits were given 0.03 Gm. of neoarsphenamine intravenously. The following day, 0.05 Gm. was given, and the same dose was repeated daily thereafter for five days and then followed by two more injections of 0.05 Gm. every second day. Each rabbit received 0.43 Gm. of neoarsphenamine during a period of eleven days. The dose of 0.05 Gm. represents approximately 0.015 Gm. per kilogram of body weight, which is a common therapeutic dose used in the treatment of syphilis in man.

A normal rabbit received a similar course of injections without unfavorable effect.

TABLE 1.—*Number of Larvae in Twenty Grams of Muscle (Injections Given During Period of Eleven Days)*

Neoarsphenamine		No Treatment	
Rabbit	No. of Larvae	Rabbit	No. of Larvae
6	2,000	3	540
7	900	10	3,150
8	4,900	11	2,800

Results.—Neither the treated nor the untreated rabbits showed signs of trichiniasis. All gained weight. Six weeks after infection, the six animals were killed. Twenty grams of meat from representative muscles (equal amounts from diaphragm, tongue, masseter, thighs and so on) was digested, and the larvae present were counted. The results are shown in table 1:

* From the Laboratory of Parasitology, Department of Bacteriology, and the Department of Pediatrics, University of Rochester School of Medicine and Dentistry.

1. Africa, C., and Lucker, J. T.: Treatment of Experimental Trichinosis in Rabbits with Neutroflavine, Proc. Soc. Exper. Biol. & Med. **28**: 432 (Jan.) 1931.

2. McCoy, O. R.: Immunity of Rats to Reinfection with Trichinella Spiralis, Am. J. Hyg. **14**: 484 (Sept.) 1931.

3. Van Cott, J. M., and Lintz, William: Trichinosis, J. A. M. A. **62**: 680 (Feb. 28) 1914.

4. McNerthney, J. B., and McNerthney, W. B.: Trichinosis: Immediate Results Following Intravenous Injection of Neosalvarsan, J. A. M. A. **67**: 1086 (Oct. 7) 1916.

5. Algora y Nieto, M.: Treatment of Trichinosis, Siglo méd. **73**: 160 (Feb. 16) 1924; abstr. J. A. M. A. **82**: 1232 (April 12) 1924.

In view of the fact that the foregoing experiment is open to criticism because of the small number of animals used, because of the sublethal dose of larvae given, and possibly because of insufficient treatment, a second test with the drug was performed.

EXPERIMENT 2.—*Procedure.*—Each of eight rabbits, weighing approximately 2.25 Kg., was infected with 170,000 larvae. The rabbits in this group were smaller and the infecting dose far greater than in the previous experiment. Seven days later, four of the rabbits were started on a course of neoarsphenamine. Injections of 0.015 Gm. per kilogram of body weight were given every second day for twenty-four days; i. e., until a full month had elapsed after infection. A total of 0.442 Gm. was thus administered. Two normal rabbits were subjected to the same treatment and during the course gained weight steadily. The results are given in table 2.

TABLE 2.—*Number of Larvae in Fifty Grams of Muscle (Injections Given Over Period of a Month*)*

Treated—Neoarsphenamine		Controls—No Treatment	
Survival Period After Infection	Total Number Larvae	Survival Period After Infection	Total Number Larvae
Died 30 days	335,000	Died 29 days	298,000
Died 41 days	590,000	Died 32 days	845,000
Died 41 days	443,300	Died 47 days	274,300
Killed 65 days	25,000	Killed 67 days	44,000

* Total larvae counts made by digestion of 50 Gm. of muscle; each thigh, 10 Gm.; intercostals, 10 Gm.; abdominal, 8 Gm.; masseter, 5 Gm.; tongue, 4 Gm., and diaphragm, 3 Gm.

The failure of one rabbit in each group to become heavily infected is explained only on the basis of biologic variation.

Prolonged neoarsphenamine treatment with a dose comparable to the antisyphilitic dose for man was of no value in experimental trichiniasis in rabbits.

ANTIMONY AND POTASSIUM TARTRATE

In 1925, Grove [6] reported a case of trichiniasis treated with intravenous antimony and potassium tartrate. Recovery occurred. The following year, Hassin and Diamond [7] described a fatal case of trichiniasis encephalitis. They mentioned incidentally that the patient was treated with antimony and potassium tartrate. Grove used the dose of the drug advised by

TABLE 3.—*Number of Larvae in Fifty Grams of Muscle*

Antimony and Potassium Tartrate		No Treatment	
Rabbit	No. of Larvae	Rabbit	No. of Larvae
4	47,650	1	248,000
5	131,000	3	124,000
6	220,000	7	487,000
9	485,400	10	67,000
47	109,300		
Average	198,400	Average	231,500

Rogers [8] for the treatment of kala-azar, which is roughly from 0.15 to 1.5 mg. per kilogram of body weight. A similar dose has been used with success in clonorchiasis and schistosomiasis.

EXPERIMENT 3.—*Procedure.*—Normal rabbits were found to tolerate daily injections of 2 mg. per kilogram of body weight for two weeks, with but slight loss of weight. A freshly prepared 1:1,000 solution in physiologic solution of sodium chloride was used. Nine rabbits, weighing approximately 3 Kg. each, were then infected with a dose of 100,000 larvae. Six days later, five of the animals were started on a course of daily injections of 2 mg. per kilogram of body weight. This treatment was well tolerated and was continued for fifteen days. One week later (four weeks after infection), all the animals were killed. The results obtained are shown in table 3.

While no evidence of a harmful effect of antimony and potassium tartrate was noted, the drug, in the manner and dosage used, had no effect on the course of the disease.

ACRIFLAVINE

In 1931, Africa and Lucker,[1] working with experimentally infected rabbits, reported that intravenous acriflavine base decreased the degree of muscle invasion. They used doses varying from 6 mg. to nearly 20 mg. per kilogram of body weight.[9]

EXPERIMENT 4.—*Procedure.*—Four rabbits, each weighing approximately 2 Kg., were infected with 110,000 larvae. Six days later, intravenous treatment of two of the infected rabbits and of two normal rabbits was begun. Acriflavine base, 3.3 mg. per kilogram, was injected in the form of a 1:1,000 solution in physiologic solution of sodium chloride. The following day, treatment was omitted, and the third day 5.2 mg. per kilogram was given. This dose was then repeated every second day until both infected animals died on the twentieth day after infection. Their death occurred after eight injections (a total of 41.8 mg. per kilogram of initial weight) had been given. The normal rabbits survived the injections. The infected untreated animals were killed the day the treated animals died.

Results.—Direct examination of the muscles showed larvae in all stages of development. Some mature larvae were encysted. With the knowledge that many young larvae would succumb to artificial digestion, nevertheless the procedure was carried out and the larvae counts shown in table 4 were obtained.

TABLE 4.—*Larvae Counts in Experiment with Acriflavine Base*

Acriflavine		No Treatment	
Rabbit	No. of Larvae	Rabbit	No. of Larvae
44	107,200	42	80,930
41	74,500	43	88,800

Acriflavine base in a dose not toxic to normal rabbits apparently hastened the death of infected rabbits and at the same time failed to lessen the degree of muscle invasion.

A second experiment was performed, larger and more concentrated doses of the drug being used.

EXPERIMENT 5.—*Procedure.*—Nine rabbits, averaging 2.4 Kg., were each infected with 75,000 larvae. Six days later, five of them were given 1 cc. of 1 per cent solution of acriflavine base per kilogram of body weight, intravenously. Two normal rabbits were likewise injected. Convulsions occurred in one animal. This dose was repeated the two following days, with death occurring in two infected animals. The injection was then changed to 2 cc. of a 0.5 per cent solution and administered on the fourth day of treatment. This proved lethal for the two noninfected animals. On the fifth day of treatment the dose was decreased to 1 cc. of a 0.5 per cent solution. Repetition of this dose on the two subsequent days killed the remaining three infected animals, the last dying on the fourteenth day after infection. Young larvae were found in the muscles of these three rabbits, but it was not possible to determine the number quantitatively. They showed approximately the same degree of muscle invasion as did the four control animals that were brought to autopsy at a later date.

6. Grove, J. S.: The Use of Antimony and Potassium Tartrate in Trichinosis, J. A. M. A. **85**: 349 (Aug. 1) 1925.

7. Hassin, G. B., and Diamond, I. B.: Trichinosis Encephalitis, Arch. Neurol. & Psychiat. **15**: 34 (Jan.) 1926.

8. Rogers, L., quoted by Cummins, S. L., in Oxford Medicine, London, Oxford University Press **5**: 883, 1921.

9. In several private communications to the authors, Drs. Africa and Lucker gave details in regard to their experiments with acriflavine and other drugs in the treatment of trichiniasis.

Physiologic solution of sodium chloride, distilled water and tap water were used at various times during the course of treatment as solvents for the drug. Its toxicity apparently did not vary with the solvent used.

It should be noted that Meleney and Zau,[10] studying the effect of intravenous injections of the dye in rabbits, found that a single dose of 25 mg. per kilogram of body weight was fatal and that smaller doses were occasionally fatal.

A dose of acriflavine base, lethal for normal animals, e. g., 10 mg. per kilogram of body weight, daily, proved no more effective in preventing muscle invasion than a dose sublethal for normal animals, e. g., 5.2 mg. per kilogram of body weight, on alternate days. Both doses hastened death in infected animals.

RIVANOL

Rivanol, an acridine dye, closely related to acriflavine base, was used intravenously in two rabbits concurrently with the second acriflavine test. Although it proved much less toxic than acriflavine in the dosage used (3 cc. of 1 per cent solution per kilogram of body weight, daily for ten days), it failed to prevent heavy muscle infection. One rabbit which received a total of 0.78 Gm. of rivanol contained 426,000 larvae in the 50 Gm. of muscle digested, a greater number than found in any of the four control animals. The other rabbit died during treatment, too early to permit a count of the larvae in the muscles. A normal rabbit receiving a course of injections similar to the treated rabbit lost weight but recovered after termination of the course.

GENTIAN VIOLET

In view of the clonorchicidal effect of intravenous gentian violet described by Faust,[11] it was determined to try it in experimental trichiniasis in rabbits. Burke and Newton,[12] in their study of this dye, observed that its toxicity varies with the solvent. They found that a freshly prepared and filtered 3 per cent solution of sodium bicarbonate was the solvent of choice. Using a 1 per cent solution of gentian violet in this solvent, they found that rabbits could be given 15 mg. of the dye per kilogram of body weight for four successive days. Larger doses were fatal.

EXPERIMENT 6.—*Procedure.*—Rabbits infected with trichina larvae, together with normal controls, were started on a course of daily intravenous injections of 10 mg. of the dye, in the form advised, per kilogram of body weight. Death occurred after the fifth or sixth injections in every case. It was then found that daily injections of 5 mg. per kilogram of a 0.5 per cent solution of the dye in 3 per cent sodium bicarbonate could be tolerated by normal rabbits for a period of at least eight days. Four rabbits were therefore infected with a dose of 90,000 larvae, and seven days later treatment with 5 mg. of gentian violet per kilogram of body weight was begun (either daily or on alternate days). One rabbit died after four doses and another after six doses. Twenty daily doses and ten doses on alternate days were tolerated by the other two rabbits. When killed five weeks after infection, both showed a degree of muscle invasion similar to that of the controls.

Gentian violet intravenously in a dose toxic for some individuals but tolerated by others did not show any trichinacidal effect.

10. Meleney, F. L., and Zau, Z.-D.: Action of Acriflavine on the Blood and Certain Tissues of Rabbits, with Particular Reference to Hemolytic Streptococcus Septicemia, J. A. M. A. **84**: 337 (Jan. 31) 1925.

11. Faust, E. C.: Parasiticidal Potencies of the Tri- to Hepta-Methyl Derivatives of Rosanilin, Proc. Soc. Exper. Biol. & Med. **26**: 748 (June) 1929.

12. Burke, Victor; and Newton, June L.: Preparation of Gentian Violet Solutions for Intravenous Injection, J. A. M. A. **86**: 529 (Feb. 20) 1926.

METAPHEN

Metaphen, an organic mercury compound known to possess high bactericidal power,[13] was tried in the treatment of three rabbits infected with trichina.

EXPERIMENT 7.—*Procedure.*—Three rabbits, weighing approximately 2.3 Kg., were each infected with 90,000 larvae. Six days later, together with a normal rabbit, they were given 2 mg. of metaphen per kilogram of body weight intravenously in the form of a 1:1,000 solution with a p_H of 8.0. Paralysis of the hind legs occurred in one infected animal immediately, followed by death two days later. The remaining animals were given three additional injections with the same dose on successive days. The infected rabbits suffered from diarrhea and loss of weight. Within six days of termination of injections, both were dead. The normal rabbit survived the treatment without loss of weight. Comparison of the muscle of the treated infected animals with that of untreated controls infected simultaneously showed no appreciable difference in the degree of infection. The larvae were too young to withstand digestion, so no counts could be made.

A large intravenous dose of metaphen failed to show any trichinacidal effect in three rabbits.

IODINE

While studying the effect of various agents on living trichina larvae in vitro, it was observed that weak solutions of iodine and acidified weak solutions of sodium or potassium iodide were lethal. Furthermore, Kalwaryjski[14] noted that encysted larvae possess a special affinity toward iodine in tissue sections. Hence an attempt was made to apply these observations to the treatment of experimental trichiniasis.

In a preliminary experiment on ten rats infected with trichina, iodine was administered in the form of intraperitoneal injections of sodium iodide. Four rats died of trichiniasis during the course of injections. The survivors received a total of 0.85 Gm. in twenty-five days. When killed, six weeks after infection, the treated animals showed approximately the same degree of muscle invasion as untreated controls.

To test the effect of intravenous injections of iodine, the following experiment was performed:

EXPERIMENT 8.—*Procedure.*—A 0.2 per cent solution of iodine was prepared in distilled water by the addition of just enough potassium iodide to effect solution. Two normal rabbits, weighing close to 2.2 Kg., were then given daily injections of 5 cc. of this solution. No systemic reactions were noted, but the resulting thrombosis of the ear veins limited the number of injections to eight.

Eight rabbits of approximately similar weight were then infected with 100,000 larvae by means of the stomach tube. Six days later, four of the rabbits were subjected to the aforementioned injections (5 cc. of 0.2 per cent solution).

Results.—Two of the treated animals died after five injections. Treatment was then discontinued. Of the two remaining treated rabbits one died shortly with a heavy infection of young larvae. The other, when killed forty-seven days later, yielded 143,000 larvae per 50 Gm. of meat, a greater number than in the only untreated control animal killed.

Intravenous iodine in the dose used proved toxic and of no appreciable value in reducing the amount of muscle infection.

COMMENT

Although the number of animals used in the individual experiments is not large, it is felt that the results

13. Birkhaug, K. E.: Metaphen (4-Nitro-3, 5-Bisacetoxy-mercuri-2-Cresol): I. A Comparative Study of Commonly Used Disinfectants and Antiseptics; II. Histologic Changes Produced by the Intravenous Administration of Metaphen in Rabbits, J. A. M. A. **95**: 917 (Sept. 27) 1930.

14. Kalwaryjski, B. E.: Ueber Jodaufspeicherung und Jodbindung durch die Muskeltrichinellen, Centralbl. f. Bakt. (Part 1) **108**: 186 (July 25) 1928.

were sufficiently clear cut to demonstrate that the drugs used were of no appreciable value in the treatment of experimental trichiniasis. In the experiments with acriflavine, gentian violet, metaphen and iodine, the majority of the treated rabbits died before it was possible to make a quantitative comparison of the amount of muscle invasion in the treated and control animals. The combination of severe trichiniasis and rigorous treatment caused greater loss of animals than did either agent acting alone. This fact, together with the observation that there was no apparent reduction in the amount of muscle invasion in the treated animals, discouraged us from attempting further experiments with these drugs. We are of the opinion that they will prove of no value in the treatment of trichiniasis.

SUMMARY

An attempt was made to test the efficacy of several therapeutic agents in the parenteral treatment of trichiniasis. Experimentally infected rabbits were given intravenous injections of neoarsphenamine, antimony and potassium tartrate, acriflavine base, rivanol, gentian violet, metaphen, and compound solution of iodine (Lugol's solution). Experimentally infected rats were treated with intraperitoneal injections of sodium iodide. In no instance was any demonstrable therapeutic effect obtained.

On the basis of these experiments, the therapeutic rationale of the occasional injection of such drugs as the arsphenamine derivatives and antimony and potassium tartrate in the treatment of human trichiniasis is questioned.

THE UROLOGIC ASPECTS OF RADIOSENSITIVE TUMORS OF THE BLOOD-FORMING ORGANS *

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By radiosensitive tumors of the blood-forming organs we refer to those tumors which are derived from primitive cells of the lymph nodes, bone marrow and spleen whose normal maturation gives rise to adult forms seen in normal blood; namely, lymphocytes and cells of the myelocytic series (polymorphonuclear neutrophils, eosinophils and basophils). Tumors derived from the primitive endothelial cells of the lymph nodes and marrow, whose normal maturation produces the large mononuclear cell seen in normal blood, are so rare that they have not been included in this paper. Following the terminology of Mallory, we have chosen the terms "lymphoblastoma" and "myeloblastoma" to designate these tumors, as the unqualified use of various terms, such as "malignant lymphoma," "lymphosarcoma," "pseudoleukemia," "splenomyelogenous leukemia," and the like, have in the past only added to the confusion in regard to the myeloblastoma, as this tumor usually expresses itself in a characteristic clinical picture; i. e., enlargement of the spleen with leukemia. It may be either acute or chronic and have a leukemic or an aleukemic blood picture, but as a rule the diagnosis may be made by a careful examination of the stained blood smear.

This is not the case with the lymphoblastoma, however, and hence the multiplication of terms, which would give the impression that these are several separate diseases, whereas, to our knowledge so far, we are probably dealing with different manifestations of one disease. In regard to this Minot and Isaacs [1] say:

> One of the big problems of modern medicine is to unravel the nature of the group of conditions that have progressive enlargement of the lymphoid tissue as their most prominent feature. Classification leads to clarification and yet confusion arises from sharp distinctions between conditions that have many resemblances, which may be because some of the conditions are but different phases of the same disease. This is the state of affairs for those disorders with unknown etiology that may be placed under the general heading of lymphoblastoma, a name considered by some as synonymous with malignant lymphoma. . . . It is highly desirable to have uniform terminology and to distinguish the differences of cases falling into this large group here termed lymphoblastoma.

Without any attempt to imply differences of etiology, we have for convenience subgrouped the lymphoblastomas into six clinical types depending on clinical, hematologic or histologic features. The first clinical type, lymphatic leukemia, is characterized by a high white cell count, with lymphocytes predominating, enlarged spleen and general adenopathy. The second type, aleukemic lymphatic leukemia, may have the same clinical picture but the white count is either normal or subnormal, and the percentage of lymphocytes usually runs quite high, from 65 to 95 per cent. The third type, Hodgkin's disease, often has a different clinical course, and the blood is not definitely remarkable, but the differentiation from the other types can be made by the typical histologic appearance of the tumor. The fourth type, mycosis fungoides, is almost universally conceded by dermatologists to belong to the lymphoblastoma group and we think should be subclassified because of the predominance of skin lesions. The fifth group in the past has been called not only lymphosarcoma but also "small round cell sarcoma": its characteristic feature is that it invades outside the capsule of the lymph gland in contradistinction to all the other types, is less radiosensitive, and often has a more rapid course than the others. The sixth and last type, which we call nonleukemia, is called also pseudoleukemia, lymphadenoma and by various other terms, depending on the fancy of the writer. This type is characterized by a negative blood picture and general adenopathy with no tendency of the tumor to infiltrate outside the gland capsule. The histologic appearance is not characteristic and may give the same picture as a leukemic gland.

It should be remembered that these types are not absolutely distinct and separate, as an individual case may be leukemic at one time, aleukemic later on and finally show lymphosarcomatous infiltrations at postmortem examination. The same is true of cases of the other types. This grouping or typing is offered merely as a working classification and has no claim to infallibility.

And finally we have used the term "radiosensitive" to describe these tumors for the simple reason that there are very few other tumors which show such remarkable response to x-rays and radium as do the lymphoblastomas and the myeloblastomas. The fact that both of these tumors are generalized and widespread, often

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1. Minot, G. R., and Isaacs, Raphael: Lymphoblastoma (Malignant Lymphoma), J. A. M. A. 86: 1185 (April 17) 1926.

long before the patient sees a physician, convinces one that operations, except for diagnosis, are seldom justified, and that the only wise form of therapy lies in x-rays or radium.

It may well be asked why these tumors in any of their forms concern the urologist. While it is true that they do not often concern him, personal experience and a careful review of the literature for the past ten years show that the urologist must be fully informed not only as to the nature of the diseases under discussion but also as to their ability to involve the urinary and genital organs. Although the literature contains but few references to the urologic aspects of these tumors, certain well defined cases are recorded which, because of signs or symptoms referable directly or indirectly to the genito-urinary tract, were seen by urologists. Also, by reading between the lines one can easily convince oneself that in many other reported instances, especially those recorded as "sarcoma" or "round cell sarcoma," the case was perhaps some form of lymphoblastoma.

Instances of lymphoblastoma involving the kidney either by direct invasion or by pressure have been described by Variot and Cailliau,[2] by Price,[3] and by Mathé.[4] Colby[5] has reported an involvement of both testicles whose original symptoms arose from a tumor in the nasopharynx. Lymphoblastoma of the prostate has been recorded by Lowsley and Harrah,[6] by Symmers,[7] by Blatt and Markus[8] and by Quinby.[9] The latter cites three similar cases reported some years ago, one by Coupland, another by Kaufman and a third by Conforti and Favento. Only recently two other cases of prostatic lymphoblastoma have been seen at the Massachusetts General Hospital, one by Swan, the other by Smith.[10] Szenes[11] has described a case involving the bladder, uterus, ovaries and tubes.

While involvement of the genito-urinary tract (except for hematuria) by myeloblastoma is usually not sufficient to direct attention to that system, one of us[12] has recently reported a case of priapism as a complication of myeloblastoma (myeloid leukemia). The diagnosis was made on clinical evidence only. The probability is that this patient is now dead. The case is not included in our group of autopsies.

In view of the fact that one of us (F. T. H.) has made a study of the clinical manifestations of the blood tumors for some years past and that several cases involving the genito-urinary tract have been seen within a comparatively short time by us and by various members of the Urological Department at the Massachusetts General Hospital, we have examined our autopsy records for the past ten years. A total of fifty-one cases has been collected. Of these, thirty-nine were lymphoblastoma and twelve myeloblastoma. Of the thirty-nine cases of lymphoblastoma, thirteen showed clinical manifestations for which a urologist might be or actually was called into consultation; in ten, while there were no clinical urologic manifestations of the disease, the pathologist found gross or microscopic evidences of it. In the remaining sixteen there was no involvement whatever of the genito-urinary organs. Of the twelve cases of myeloblastoma, two showed signs or symptoms pointing to the genito-urinary tract; eight had no signs or symptoms but postmortem examination revealed either infiltrations of the tumor or purpuric hemorrhages into various parts of the genito-urinary tract, particularly the kidney, while in two cases there were no signs or symptoms nor involvement even microscopically. In brief, there was involvement of the genito-urinary tract in thirty-three of fifty-one cases of these tumors (64.7 per cent). These are arranged in the accompanying table.

In the fifteen cases (thirteen lymphoblastoma, two myeloblastoma) showing signs or symptoms, the urologist was or might have been asked to give an explanation of a mass in one or both flanks in six cases, of an enlarged prostate with more or less retention in one case, of pain in the back in four cases, of a marked enlargement of the testis (bilateral in one) in two cases, and of hematuria and pyuria in seven cases. These signs and symptoms occurred singly or in one or another combination. In one instance the signs and many of the symptoms were so suggestive of left perinephric abscess that the patient was about to be operated on for this disease. An eleventh hour consultation averted this and attention was directed to the spleen, which was found at operation to be an enormous necrotic mass of lymphoblastoma. In this case the preoperative diagnosis was made more obscure by a negative blood picture and an absence of enlarged glands. In another case the presence of a severe cystitis with persistent pyuria, intermittent pyrexia and a dilated and infected right kidney pelvis led to an exploration of the kidney. During convalescence further blood studies and the development of and a biopsy on an enlarged cervical gland showed the case to be one of the Hodgkin's type of lymphoblastoma.

It is obvious from what has been said that the urologist may be called to see these cases for various conditions. In the lymphoblastoma there may be pain referred to the kidney region with or without palpable tumor. An infiltration or invasion of the kidneys up to the point of replacement with tumor tissue may produce anuria, oliguria or uremia. A similar process involving the ureter and producing constriction may result in renal colic, pyelonephritis or pyonephrosis; in fact, complete obstruction of one or both ureters may even occur. Invasion of the bladder primarily or by way of the prostate can produce marked disturbance of urinary function, including retention.

Pyuria and hematuria, gross or microscopic, may of course result from any of the conditions described, or these symptoms may be produced by minute or microscopic involvement of the urinary organs. Repression of urine due to invasion of the brain by a leukemic type of lymphoblastoma has been seen by one of us (F. T. H.). In this instance the only other evidence of brain involvement, besides the repression of urine, was mental sluggishness, which might have been interpreted as an early symptom of uremia. Postmortem examination showed no evidence whatever of involvement of the urinary tract. (This case has not been included in our series of autopsies.) Invasion of the testis may simulate neoplastic tumors of the more usual type and experience has shown that even after orchidectomy the tumor may persist and develop in the stump of the spermatic cord. Marked involvement of the epididymides and spermatic cords into the inguinal

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3. Price, H. L.: Ohio State M. J. **25**: 550 (July) 1929.
4. Mathé, C. P.: J. Urol. **17**: 357 (March) 1927.
5. Colby, F. H.: New England J. Med. **202**: 657 (April 3) 1930.
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10. Smith, G. G.: Personal communication to the authors.
11. Szenes, Alfred: Ztschr. f. Geburtsh. u. Gynäk. **96**: 121, 1929.
12. Barney, J. D.: New England J. Med. **203**: 1013 (Nov. 20) 1930.

canal was seen by one of us (J. D. B.). The patient had been ill over a long period of time and had been studied by various internists and surgeons. While it was thought that he had a malignant growth somewhere, no definite diagnosis was made. The tumor formation previously described occurred during the last few weeks of life. At autopsy a diagnosis of aleukemic leukemia was made.

Myeloblastoma, or myeloid leukemia, in contrast to lymphoblastoma, does not so often invade the urinary system, but, as a result of the general purpuric tendency usually seen sooner or later in its course, frequently gives rise to gross or microscopic hematuria. In addition to hematuria one may find blood in the stools, ecchymoses of the skin or bleeding from the gums. It is well known that the leukemias, especially those of the myelogenous type, frequently have a high uric acid content in the blood and these may develop "sand" and even calculi of this composition.

Priapism of the most pronounced and persistent type may appear in the course of this tumor. Although certain of the textbooks state that this unfortunate complication is not uncommon, the case already referred to is the only one so far seen in our clinic.

In certain cases the genito-urinary symptoms may develop early and may be the reason for the patient's consulting the urologist first of all; in others these symptoms may be a more or less late manifestation of the disease. It is therefore important that the urologist should have at least a rudimentary knowledge of the signs and symptoms of this group of blood tumors so that if possible he may not only make his diagnosis early but also avoid what may be entirely futile surgical intervention. We can go so far as to say that if in any case pain in the back or flanks is the chief complaint and careful study reveals no pathologic condition in the urinary tract, lymphoblastoma should be considered. In this circumstance the urologist may do well to look for some of the less obvious signs of this disease. Careful and repeated blood smears, examined if necessary by a trained pathologist or internist, will often reveal the diagnosis. The superficial glands of the body should be examined, especially those in the posterior triangle of the neck (care being taken to exclude the adenitis found with pediculosis capitis or infections of the scalp), the supraclavicular region, the femoral triangle and the axillary region. In fact, a lymph gland of more than 1 or 2 cm. in diameter, no matter where it is located, should be regarded with suspicion and a biopsy done if it seems justifiable. We have sometimes, especially in thin individuals, been able to palpate a mass of enlarged glands in one or the other iliac fossa, the examination being made much more easily with the patient lying on his back with his knees flexed on the abdomen. A roentgen examination may be of the utmost value and clear up an otherwise obscure diagnosis. It may show an involvement of the peritracheal or peribronchial glands; it may even reveal a metastatic tumor of the spine as a cause of pain in the back. These steps in the procedure of making a diagnosis may result in success when without them a correct solution would not be reached. None of them are difficult or time consuming and all can be carried out by the urologist himself or by his medical colleagues.

No matter in what part of the body these tumors are discovered, it must be remembered that they are but a local manifestation of a generalized disease of the blood-forming organs. In this way it very much resembles tuberculosis with its well known tendency to declare itself first in one organ or system and then in another.

TREATMENT

Once the diagnosis is established, the only rational treatment is high voltage roentgen therapy or in special instances radium externally applied. As in all types of generalized malignant tumors, frequent and careful physical examinations are necessary to detect in the early stages invasions in other parts of the body, and to institute therapy if possible before symptoms (such as those due to mediastinal pressure) have become marked. The assistance of the trained radiologist and the internist may make all the difference in the world to the patient as far as comfort is concerned. Surgery is almost always contraindicated except for purposes of diagnosis, or, rarely, for the relief of symptoms that radiation therapy has failed to alleviate.

PROGNOSIS

Both types of tumors are universally fatal. The myeloblastoma usually produces death in from two to four years in chronic cases, in from six weeks to six months in the acute type. In the lymphoblastoma, prognosis is much more difficult. In the case of longest duration in this clinic without involvement of the genito-urinary tract, the patient died seventeen years after biopsy, but the average patient lives from two to four years if there is no involvement of vital organs early in the disease. It is obvious that the part of the body involved by the tumor shapes the prognosis in the individual cases; that in a case of replacement of both kidneys by tumor tissue death cannot be far away, while in a case of invasion of the testis the immediate prognosis is nowhere near so grave.

CONCLUSIONS

1. The so-called radiosensitive tumors that we have described under the terms lymphoblastoma and myeloblastoma are derived from the primitive cells of the lymph nodes, bone marrow, and spleen. While the myeloblastomas are characterized by enlargement of the spleen with leukemia, the lymphoblastomas have varied characteristics and for this reason have been more or less arbitrarily divided into six classes. It should be remembered, however, that these types are not absolutely distinct as in the same patient the picture may be first of one and then of another type.

2. These tumors are called "radiosensitive" because of their remarkable response to the influence of x-rays or radium and for this reason surgery is generally not only contraindicated but futile.

3. The literature contains very few authentic cases of such involvement, a fact to be explained perhaps by the failure to make a correct diagnosis more often.

4. Out of fifty-one autopsies studied by us, in conjunction with the clinical records, we have found thirty-nine cases of lymphoblastoma and twelve of myeloblastoma. Of the lymphoblastomas, thirteen, or 33⅓ per cent, showed clinical signs or symptoms referable to the genito-urinary tract, while ten more showed a greater or less involvement at autopsy, giving a total of 58.9 per cent that concern the urologist. Of the twelve myeloblastomas two, or 16⅔ per cent, showed clinical signs and symptoms while in eight others lesions of the genito-urinary organs were discovered only by the pathologist. Thus in this group 83⅓ per cent showed evidences of the disease in the genito-urinary system.

5. The urologist may see cases of tumors of the blood-forming organs because of a mass in the loin, a pain in the back, retention of urine, enlarged prostate, tumor of the testicle or epididymis, pyuria, hematuria or priapism. These symptoms, single or in combination, may occur early or at any time during the course of the disease.

6. In any case in which one or another of the tumors described is suspected, one should do careful and repeated studies of the blood smears; examine carefully for enlarged glands, doing a biopsy if necessary, and make a roentgen examination of the chest and spine.

7. The only rational treatment of these tumors is high voltage roentgen therapy and in some cases external applications of radium. This treatment should be instituted as soon as possible after the diagnosis is made. It therefore follows that the urologist should cooperate with the radiologist and the internist.

8. The prognosis in all types of the tumors referred to here is always fatal. The length of life depends on the type of tumor, on the reaction of the individual patient to his tumor, and on the involvement of vital organs such as the kidneys.

The protocols of cases studied in this communication follow:

PROTOCOLS OF CASES WITH CLINICAL SIGNS AND SYMPTOMS

A. *Leukemia*—5 cases.

1. Man, aged 81. The bladder was overdistended; a large, irregular hard mass like prostate encircled the rectum. Uremia and hematuria were present. Cervical axillary and inguinal glands were palpable. Urine was loaded with pus. Blood count was: red cells, 3,720,000; white cells, 124,000; polymorphonuclears, 13 per cent; lymphocytes, 80 per cent; large mononuclears, 2 per cent; eosinophils, 5 per cent. There was marked infiltration of spleen, duodenum and jejunum, mesenteric and retroperitoneal glands. Kidneys and bladder were largely replaced by tumor tissue, which invaded and encircled the prostate.

2. A boy, aged 2 years 5 months, had fever for a few days and a progressive anemia. A firm, smooth mass in the left upper quadrant was shown by intraperitoneal injection of air to be the left kidney; there was general adenopathy. Urine examination was negative. Blood count was: red cells, 3,200,000 to 1,980,000; white cells, 7,000 to 50,000; polymorphonuclears, 3 per cent; lymphocytes, 94 per cent; large mononuclears, 2 per cent; transitionals, 0.5 per cent; normoblasts, 0.5 per cent. Mesenteric and retroperitoneal glands were enlarged. Kidneys, especially the left, showed extensive lymphoid infiltration.

3. A man, aged 71, complained of dyspnea, cough, hoarseness, sore throat, diarrhea and marked loss of weight. Urine showed albumin, pus, blood and casts. Spleen and liver were palpable. Superficial glands were enlarged. Blood count was: red cells, 3,260,000, white cells, 242,000; polymorphonuclears, 2 per cent; lymphocytes, 97 per cent; mononuclears, 1 per cent; eosinophils, 0; basophils, 0; mesenteric and retroperitoneal glands were enlarged; kidneys were grossly normal but showed microscopic areas of lymphocytic infiltration, especially in cortex.

4. Man, aged 24. Complaints were of dyspnea, cough, nocturia. There was a plum-sized mass above the umbilicus. Urine examination was negative. Testes were hard, the size of a hen's egg. Biopsy of superficial gland revealed lymphoma. Roentgen examination showed a large mass filling the mediastinum. Urine examination was negative. There was purpura of the skin before death. Blood count was: red cells, 7,688,000; white cells 6,900, later 96,800; polymorphonuclears, 68 per cent; lymphocytes, 24 per cent; large mononuclears, 8 per cent. Later, polymorphonuclears were 8 per cent; lymphocytes, 92 per cent, all small type. Retroperitoneal glands were much enlarged, especially near the head of the pancreas. Kidneys and testes were extensively infiltrated with lymphomatous tissue.

5. Boy, aged 3 months 13 days. Both kidneys were enlarged. There was ecchymosis of the left scrotum. Urine showed few red cells and a few white cells. Blood count was: red cells, 3,656,000; white cells, 265,000; polymorphonuclears, 2 to 4 per cent; lymphocytes, 85 to 90 per cent; mononuclears, 6 to 12 per cent. Mesenteric and retroperitoneal glands were much enlarged. Stomach and intestine showed marked infiltration. Kidneys were much enlarged and infiltrated. Ureters showed many nodules of infiltrating tumor. Both testes showed infiltration.

B. *Aleukemia*—1 case.

1. A man, aged 79, gave a long history. There were intermittent masses in the abdomen. Several blood smears showed increased percentage of lymphocytes. Spleen was palpable. There was ecchymosis of hands and feet. Roentgen examination showed rarefaction of spine and ilia. There was bilateral hydrocele with epididymitis and funiculitis, also pyrexia. Retroperitoneal and mesenteric glands were enlarged showing infiltrations with atypical lymphocytes and lymphoblasts. Prostate showed the same infiltration. Spleen contained atypical cells consisting of myeloblasts and lymphoblasts.

C. *Hodgkin's disease*—2 cases.

1. A woman, aged 58, had intermittent pyrexia, loss of strength, cystitis, pyuria; right hydronephrosis with pyelitis and cystitis. Biopsy of cervical gland revealed lymphoblastoma (Hodgkin's type).

2. Man, aged 29. There had been a mass in the left upper quadrant of two months' duration. Urine examination was negative. He suffered pain, loss of weight, weakness. There was a superficial adenopathy. Biopsy revealed lymphoblastoma (Hodgkin's). Mesenteric and retroperitoneal glands formed a solid mass of tumor involving the right kidney and replacing the left.

D. *Lymphosarcoma*—1 case.

1. Boy, aged 7 years. There was pain and swelling of the face. Diagnosis was sarcoma of the jaw. Biopsy revealed lymphosarcoma. There was a mass the size of a grapefruit in each flank. Urine examination was negative except for albumin. There was infiltration of stomach, duodenum and ileum. Retroperitoneal and mesenteric glands were enlarged. Kidneys were both much enlarged and infiltrated.

E. *Nonleukemia*—4 cases.

1. Man, aged 52. There had been pain on the left side of four months' duration; there were no genito-urinary symptoms. Urine examination was negative. There was dulness and mass in the left upper quadrant. Pyelogram showed deformity and downward displacement of the left kidney. Diagnosis at first was perinephric abscess, later abscess of spleen. Blood count was: red cells, 5,000,000; white cells, 7,500 to 19,600; polymorphonuclears, 72 per cent; lymphocytes, 15 per cent; large mononuclears, 11 per cent; eosinophils, 2 per cent; basophils, 0. There was extensive lymphoblastomatous infiltration of spleen, stomach, retroperitoneal glands and pancreas.

2. A man, aged undetermined, had pain in the lower abdomen, distention and jaundice. Urine showed red and white cells. Superficial glands were enlarged. Blood count was: red cells, 4,690,000; white cells, 10,700; polymorphonuclears, 86 per cent; lymphocytes, 10 per cent; mononuclears, 2 per cent; eosinophils, 2 per cent. Biopsy of axillary gland revealed lymphoblastoma (nonleukemic type). Retroperitoneal and mesenteric glands formed a large mass involving especially the head of the pancreas. Both kidneys were much enlarged.

3. A woman, aged 65, had suffered pain in the back, hips, and lower abdomen for six months. Later there was retention of urine. The left side of the abdomen was occupied by a large tumor. Urine examination was negative, as was also the roentgen examination. Blood count was: red cells, 4,800,000; white cells, 4,000; polymorphonuclears, 61 per cent; lymphocytes, 29 per cent; eosinophils, 1 per cent; mononuclears, 2 per cent. Retroperitoneal space, especially on the left, was filled by a large irregular mass of tumor tissue. Kidneys and ureters showed extensive infiltration.

4. Man, aged 63. There was nasal obstruction. The tumor mass was treated with radium. Diagnosis was carcinoma. Later there was tumor of both testes, and a bilateral orchidectomy was performed. Diagnosis was lymphoblastoma. Later hoarseness and dysphagia appeared. Superficial glands were much enlarged. Kidneys were infiltrated with tumor.

F. *Myelogenous leukemia*—2 cases.

1. A man, aged 32, complained of hematuria and bleeding gums. Urine was almost pure blood. Stools contained blood. Blood count was: red cells, 3,240,000; white cells, 17,800; polymorphonuclears, 3 per cent; lymphocytes, 15 per cent; mononuclears, 5 per cent; basophils, 0; myelocytes, 76 per cent. Kidneys showed marked focal infiltration.

2. Man, aged undetermined. There had been intermittent pain in the left upper quadrant of three years' duration, with weakness, dyspnea and loss of weight. Urine showed much pus and uric acid crystals. Spleen was enlarged. Blood count was: white cells 200,000; polymorphonuclears, 17 per cent; myeloblasts, 4 per cent; eosinophils, 0; basophils, 1 per cent; large mononuclears, 1 per cent; lymphocytes, 77 per cent. Kidneys were infiltrated. There were cystine calculi in the bladder.

WITHOUT CLINICAL SIGNS OR SYMPTOMS

A. *Leukemia*—3 cases.

1. Woman, aged 45. There were purpuric spots on the body. Blood count was: red cells, 2,400,000; white cells, 24,000; polymorphonuclears, 1 per cent; eosinophils, 1 per cent; small lymphocytes, 11 per cent; large lymphocytes, 82 per cent; myelocytes, 4 per cent; atypical, 1 per cent. There was microscopic infiltration of the kidneys.

2. Man, aged 35. Blood count was: red cells, 1,380,000; white cells, 28,800; polymorphonuclears, 2 per cent; lymphocytes, 94 per cent; basophils, 1 per cent; myelocytes, 3 per cent. Mesenteric and retroperitoneal glands were enlarged; kidneys showed microscopic infiltration.

3. Man, aged undetermined. The patient had swollen glands of three years' duration. Blood count was: red cells, 2,770,000; white cells, 406,400; polymorphonuclears, 1 per cent; small lymphocytes, 84 per cent; large lymphocytes, 12 per cent; large mononuclears, 3 per cent. Kidneys showed massive infiltration, as did the prostate.

B. *Aleukemia*—1 case.

1. Man, aged 68. There were purpuric spots on the body. Biopsy of glands revealed malignant lymphoma. Blood count was: red cells, 4,680,000; white cells, 6,400; polymorphonuclears, 24 per cent; lymphocytes, 14 per cent; mononuclears, 20 per cent; unclassified, 42 per cent. Retroperitoneal glands were enlarged, spleen grossly involved, kidney tissue replaced here and there with atypical lymphoid tissue.

C. *Hodgkin's disease*—1 case.

1. Man, aged 43. There was upper abdominal pain and enlarged glands, epigastric distress and edema of ankles. Blood count was: red cells, 4,300,000; white cells, 5,600; polymorphonuclears, 61 per cent; lymphocytes, 25 per cent; mononuclears, 12 per cent; eosinophils, 2 per cent. Mesenteric and retroperitoneal glands were much enlarged, ureters thickened and bound down by mass of glands.

D. *Mycosis fungoides*—2 cases.

1. A man, aged 21, complained of skin eruptions, sore throat and loss of weight. Blood count was: red cells, 4,000,000; white cells, 5,300; polymorphonuclears, 75 per cent; lymphocytes, 16 per cent; large mononuclears, 4 per cent; eosinophils 1 per cent; myelocytes, 4 per cent. There were tumor nodules in the skin, and the kidneys showed infiltration.

2. Man, aged 35. Skin was studded with tumor nodules; retroperitoneal glands were enlarged; superficial glands were enlarged, and the kidneys showed infiltration.

E. *Nonleukemia*—2 cases.

1. Man, aged 62. Blood count was: white cells, 16,000; polymorphonuclears, 60 per cent. Mesenteric and retroperitoneal glands were much enlarged. Kidneys showed microscopic infiltration.

2. Man, aged 56. There was bilateral costal pain and superficial adenopathy. Blood count was: red cells, 5,000,000; white cells, 13,600; polymorphonuclears, 75 per cent; lymphocytes, 22 per cent; mononuclears, 3 per cent. Peritoneum and mesentery were infiltrated; also the pancreas and liver. A tumor mass was in the lower pole of each kidney.

F. *Unclassified lymphoblastoma*—1 case.

1. A woman, aged 55, complained of abdominal distention and pain. Mesenteric and retroperitoneal glands were enlarged; omentum, intestine and mesentery invaded. There were tumor nodules in the right kidney.

G. *Myelogenous leukemia*—8 cases.

1. Woman, aged 18. There had been pain in the back and joints for two months; weakness, loss of weight, epistaxis recently. Liver and spleen were palpable. Blood count was: red cells, 3,800,000; white cells, 102,300; polymorphonuclears, 5 per cent; lymphocytes, 7 per cent; neutrophils, 3 per cent; eosinophils, 1 per cent; basophils, 1 per cent; myeloblasts, 83 per cent. Skin showed petechiae. The mesenteric and retroperitoneal glands were enlarged. Kidneys showed infiltration.

2. Woman, aged 42. Complaint was superficial adenopathy. Blood count was: red cells, 1,480,000; white cells, 224,000; polymorphonuclears, 5 per cent: lymphocytes, 7 per cent; large mononuclear neutrophils, 0; eosinophils, 1 per cent; basophils, 4 per cent; myelocytes, 21 per cent; myeloblasts, 62 per cent. Retroperitoneal glands were enlarged, kidneys showed tumor infiltration.

3. A boy, aged 9 months, entered the hospital for swelling of the right eye. There was also purpura of the chest, and he died nine hours later. Blood count was: red cells, 5,100,000; white cells, 126,000; polymorphonuclears, 2 per cent; large lymphocytes, 42 per cent; small lymphocytes, 43 per cent; large mononuclears, 5 per cent; unclassified, 7 per cent. There was marked involvement of retroperitoneal and mesenteric glands, intestine, stomach, kidneys, ureters and bladder.

Presence and Absence of Signs and Symptoms in Lymphoblastoma and Myeloblastoma

	Signs and Symptoms	No Signs and Symptoms	Negative	Totals
Lymphoblastoma				
Leukemia	5	3	4	12
Aleukemia	1	1	1	3
Hodgkin's	2	1	2	5
Mycosis fungoides	0	2	2	4
Lymphosarcoma	1	0	0	1
Nonleukemia	4	2	6	12
Unclassified	0	1	1	2
Total	13	10	16	39
Myeloblastoma				
Myeloid leukemia	2	8	2	12
Total	15	18	18	51

4. A man, aged 61, complained of loss of weight and enlarged spleen. Blood count was: red cells, 2,780,000; white cells, 115,000; polymorphonuclears, 16 per cent; mononuclears, 3 per cent; basophils, 1.5 per cent; lymphocytes, 1 per cent; myeloblasts, 6.5 per cent; myelocytes, 71 per cent. Axillary glands and glands of neck were enlarged; liver and spleen much enlarged. Kidney, pelvis and ureters contained much pale, yellow-brown sand.

5. Sex and age of patient undetermined. Mesenteric and retroperitoneal glands were enlarged; kidneys showed microscopic infiltration.

6. Woman, aged 47. There was generalized adenopathy blood count was: red cells, 3,090,000; lymphocytes, 5 per cent; white cells, 172,000; polymorphonuclears, 1 per cent; eosinophils, 1 per cent; myeloblasts 90 per cent; normoblasts, 3 per cent. Mesenteric glands were much enlarged. Kidneys showed microscopic infiltration of the medulla.

7. Man, aged 44. There was a mass in the right groin. Blood count was: red cells, 3,750,000; white cells, 485,000; polymorphonuclears, 34 per cent; lymphocytes, 2 per cent; myelocytes, 38 per cent; transitionals, 36 per cent. Retroperitoneal and mesenteric glands were enlarged; ileum showed infiltration. Kidneys showed microscopic infiltration of the interstitial tissue of the pyramids.

8. A woman, aged 53, was admitted in coma. Blood count was: white cells, 80,000; few normal polymorphonuclears and lymphocytes, several basophils, many large abnormal cells of bone marrow series. There was leukemic infiltration of the spleen, liver, myocardium and retroperitoneal glands. Kidneys showed microscopic tuberculosis, and there was leukemic hyperplasia of the bone marrow.

NOTE.—Protocols have been given only of those cases showing clinical signs or symptoms and of those showing involvement of the genito-urinary tract at autopsy, but no clinical signs or symptoms. The arrangement is somewhat different from that given in the accompanying table. In some cases the data are incomplete but are sufficient in our judgment to enable us to make an unqualified statement as to the diagnosis. Only positive observations have been recorded. In many cases the blood picture varied considerably; generally the blood picture at the time of the patient's entering the hospital has been given.

DRIED LACTIC ACID MILKS AS A LONG CONTINUED DIET FOR INFANTS *

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The relative value of dried lactic acid milks, liquid lactic acid milks and sweet milk mixtures as a diet for infants over long periods of time has not been established. The study here reported was made on a group of infants delivered in the obstetrical department of the University of Illinois Research and Educational Hospital, together with a few cases from outside sources. Mothers were instructed to return when their babies were 1 month of age, if the infants were strictly breast fed, or when they were 3 weeks of age if partially breast fed or artificially fed.

The experiment was begun, Dec. 10, 1929, and was carried on for ten months, ending Oct. 10, 1930. Of 186 infants transferred to our service between Dec. 10, 1929, and June 10, 1930, 116 were selected. Of these, twenty-three breast fed and eight artificially fed were dropped because of insufficient cooperation. The infants included were under observation for a minimum period of four months and a maximum period of ten months. The eighty-five infants closely observed were classified at the end of the experiment into the groups shown in table 1.

The infants on artificial or complement feedings were brought in each week for examination and regulation. As the child grew older the examinations were reduced to every two weeks. The breast fed infants visited the clinic once a month. Our nurse, who was on full time, in addition to being present at the conferences made 210 visits into the homes.

Exceptional weight gains or losses, refusal of feedings and failure to report were the main impetus for home calls. Through these home visits we were often able to determine whether or not the mother was carefully following instructions, properly preparing the food and giving the infant conscientious care. The nurse also held telephone conversations with the mothers and mailed special notices, in an effort to keep them attending the conferences as scheduled.

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* As controls, infants were fed breast milk, breast milk complemented with various lactic acid milks, and entire feedings of cultured fluid lactic acid milk and sweet milk plus U. S. P. lactic acid.

At each visit, weight and temperatures were taken and any unusual symptoms were carefully inquired into and recorded. A complete history was taken as to the general condition of the child, his disposition, occurrence of colic, vomiting, and the number and kind of bowel movements.

Hemoglobin readings were made (Newcomer) by the same technician once a month on both artificially fed and breast fed infants. Roentgenograms were taken of all infants in whom clinical rickets was suspected.

AMOUNTS FED

The feedings were standardized to approximate a food value of 2 ounces of cow's milk per pound of infant body weight in twenty-four hours. Water was added to make the total daily fluid average from 2½ to 3 ounces for each pound of body weight. Cane sugar was added to this in amounts of one-tenth ounce per pound of body weight. All infants were fed every four hours, receiving five or six feedings in twenty-four hours. The breast fed infants were allowed to take all the food they desired. Nursings, however, were limited to twenty minutes.

Throughout the study, cod liver oil was given, beginning with ten drops twice daily at the first visit and gradually increased until by the age of 3 months the infants were receiving one teaspoonful twice daily. Orange juice was given, starting at the first visit with half a teaspoonful twice daily and gradually increasing until at the age of 3 months the infants were receiving 1½ ounces daily. Cereal was started at 5 months and increased to four tablespoonfuls twice daily. Vegetable soup was started at 7 months and gradually increased to replace one bottle. At 9 months, banana was added. These were the only other additions made to the diet.

FOODS SUPPLIED BY CLINIC

All milks for artificially fed infants, including fresh and cultured raw cow's milk and dried lactic acid milks, the U. S. P. lactic acid and cod liver oil were furnished by the clinic free of charge. By this means we were more nearly able to control the diet completely and insure the return of the patients. Standard measuring spoons for milk and sugar were given to each mother. At each visit the mother was given written instructions covering the next formula. This included both the amount of food to be fed and the manner of preparation.

TABLE 1.—*Classification of Eighty-Five Infants on Various Types of Feeding*

Type of Feeding	No. of Infants
Breast fed (only)	18
Breast fed + Merrell-Soule dried whole lactic acid milk (cultured)	8
Breast fed + Mead Johnson dried whole lactic acid milk (cultured)	3
Breast fed + Mead Johnson dried whole lactic acid milk (U. S. P.)	4
Breast fed + fresh cow's milk + Merrell-Soule plain lactic acid	3
Breast fed + Bulgarian cultured milk	1
Fresh cow's milk + U. S. P. lactic acid	5
Bulgarian cultured milk	5
Merrell-Soule dried whole lactic acid milk (cultured)	30
Mead Johnson dried whole lactic acid milk (cultured)	3
Mead Johnson dried whole lactic acid milk (+ U. S. P. lactic acid)	1
Mixed feeding	4

DISPOSITION TOWARD ACID MILKS

The question often arises as to how well infants will take lactic acid milk after having been on breast or sweet milk mixtures for some time. Sixty-two infants took lactic acid milk well. Three infants refused the formula at 2 months of age when changed from breast to lactic acid milk but took it well when 1 grain

(0.065 Gm.) of gluside was added to each pint of milk. After six weeks we were able to discontinue the gluside. Several infants after passing their eighth month with increase in their intake of other foods refused to take full feedings of sweetened lactic acid milk.

WEIGHT GAINS

In comparing weight gains of infants, one must consider birth weight and relative rapidity of gain of the individual infant even though they are all fed comparable amounts of food. From among our eighty-five infants we selected twenty-nine for comparison. It was our object to select babies for comparison who were most alike in their physical development.

TABLE 2.—*Average Gains After Eighth Week*

Feeding	Number of Infants	Average Weight at 8 Weeks, Gm.	Gained Additional 1,000 Gm.	Gained 2,000 Gm.
Cow's milk + U. S. P. lactic acid	4	4,630	6 weeks	11¾ weeks
Bulgarian cultured milk	3	4,142	6⅓ weeks	12 weeks
Merrell-Soule whole lactic acid milk (cultured)	12	4,170	6¼ weeks	12 weeks
Breast fed (only)	10	5,060	5 7/10 weeks	11½ weeks

At 8 weeks, the infants who had been fed cow's milk plus U. S. P. lactic acid averaged 4,630 Gm. and those who had been given liquid lactic acid milk averaged 4,142 Gm.; the infants who had been fed powdered Merrell-Soule whole lactic acid milk averaged 4,170 Gm. and the breast fed infants 5,060 Gm. Table 2 shows the average length of time in weeks for a gain of an additional 1,000 and 2,000 Gm. after the eighth week of life.

The infants on cow's milk plus U. S. P. lactic acid, cow's milk cultured and dried lactic acid milks showed approximately the same gains in weight, somewhat slower, however, than that of the average of the breast fed infants. The latter, as a group, were heavier infants. These gains compare with the accepted normal average for breast fed and artificially fed infants.

The breast fed babies during the first twenty-two weeks showed a weekly gain of 180 Gm., while the group on dried lactic acid milk averaged only 155 Gm. During the second period, from twenty-two to thirty-two weeks, the breast fed babies averaged 113 Gm., considerably less than they did during the first period, while the babies on dried lactic acid milk continued at practically the same rate, averaging 150 Gm. per week. During the third period there was an average gain of 126 Gm. per week by the babies on dried lactic acid milk. During the twenty-two to thirty-two and thirty-two to forty week periods, the two groups had the same additional foods; namely, cereal and later cereal and vegetables. The relatively poorer figures for the breast fed babies in the twenty-two to thirty-two weeks were in all probability due to a relative insufficiency in the breast milk supply. This is not to be taken as a recommendation of dried lactic acid milk over breast milk. The infants receiving dried lactic acid milk were fed increasing amounts of food in proportion to their gain in body weight.

END-RESULTS

Vomiting.—Vomiting was rather unusual in this group of infants. There was no vomiting of consequence in any of the infants on full lactic acid feedings, cow's milk cultured, cow's milk + U. S. P. lactic acid or dried lactic acid milks. The same is true of those on breast milk with lactic acid milk as complement.

Colic.—Four infants on straight breast feedings and six on breast with lactic acid milk as complement evidenced considerable colic at times. The infants on straight lactic acid milk feedings, fresh and dried, seemed to be less inclined to colic than the other groups.

Stools.—In general, the stools of the infants receiving lactic acid milks were formed, smooth, pasty and grayish yellow and averaged from one to three daily. Five of the infants showed considerable constipation. Three of these were receiving Merrell-Soule dried lactic acid milk and two cultured sweet milk.

Diarrhea.—During the last two weeks of August, 1930, and the first week in September, ten cases of diarrhea were observed. Three were in infants on breast milk plus Merrell-Soule dried lactic acid milk complement, two on Merrell-Soule dried lactic acid milk, one on Mead Johnson dried lactic acid milk (acidified), one on Mead Johnson dried lactic acid milk (cultured), two on cow's milk + U. S. P. lactic acid and one on sweet milk cultured. During this period, diarrhea was prevalent throughout the city. The infants were practically free from diarrhea during the time preceding and after this. In one infant, severe protracted diarrhea developed while the child was in a boarding home. In this case, after twelve hours of starvation small lactic acid feedings were started without added carbohydrate. Camphorated tincture of opium was the only drug used. Convalescence covered a period of two weeks. Recovery was complete. In the treatment of the other nine cases, the lactic acid milk feedings were continued throughout the illness, the sugar being eliminated or reduced. In those receiving cereal or vegetable soup, these foods were temporarily discontinued.

Teeth.—Of a total of forty-five infants examined at 8 months, twenty-six had teeth and nineteen were without teeth. All the infants received cereal at the end of their fifth month and vegetables by the end of their seventh month.

TABLE 3.—*Average and Total Gains over a Period of Forty Weeks*

Groups	Average Weekly Gain in Precereal Period (22 Weeks)	Average Weekly Gain, 22-32 Weeks (Cereal Added)	Average Weekly Gain, 32-40 Weeks (Cereal and Vegetables)	Total Gain for 32 Weeks
Breast fed	180 Gm. 18 infants	113 Gm. 10 Infants	.....	5,090 Gm.
Merrell-Soule lactic acid milk	155 Gm. 8 infants (first visit on Merrell-Soule)	150 Gm. 15 infants	126 Gm. 12 infants	4,910 Gm.

Three of the infants received breast milk exclusively during their first five months. Of these, two had two teeth and one tooth, respectively. The third had no teeth.

Of the sixteen breast fed babies receiving various lactic acid milk complements, eight had teeth and the number of teeth were two, four, two, two, four, six, one and two. Eight had no teeth.

Of the five fed on fresh cow's milk plus U. S. P. lactic acid, two had two teeth each and three had no teeth.

Of the three babies on fresh cultured lactic acid milk, two had two teeth each and one had no teeth.

Of the eighteen babies on dried lactic acid milk, sixteen were on Merrell-Soule. Ten of these had teeth, three having two teeth each; two, three teeth; four, four teeth, and one eight teeth, and six had no teeth. Two infants on Mead Johnson had, respectively, four teeth and two teeth.

No definite conclusion as to relationship of these feedings to the eruption of teeth should be drawn from these figures.

In our opinion, however, there was no retardation of the eruption of teeth in the group of infants fed dried acidified milks from birth through their eighth month.

Hemoglobin.—Hemoglobin estimations (Newcomer) were all made by the same technician at approximately monthly intervals. In the tabulations in table 4 are those selected from our eighty-five infants in which the hemoglobin estimations were carried through a period of at least thirty-two weeks. This table presents the estimations from fifty-six cases. Attention may be called to the fact that there are no outstanding differences in the findings in the various groups. The lower figures in the breast fed group, as compared with the complement and dried milk groups, in part at least, may be accounted for by the fact that the breast fed

TABLE 4.—*Hemoglobin*

Feeding	No. of Infants	5 Wks., Gm.	9 Wks., Gm.	16 Wks., Gm.	24 Wks., Gm.	32 Wks. Gm.
Breast fed (only)	12	13.0	12.0	11.3	11.3	11.0
Breast fed + Merrell-Soule dried whole lactic acid milk (cultured)	8	14.0	12.0	11.2	12.0	....
Breast fed + Mead Johnson dried whole lactic acid milk (cultured)	3	12.5	12.0	12.0	11.4	12.0
Breast fed + Mead Johnson dried whole lactic acid milk (U. S. P.)	3	14.5	12.0	11.0	9.5	12.0
Breast fed + Bulgarian cultured milk	1	14.0	10.0	11.0	13.0	....
Fresh cow's milk + U. S. P. lactic acid	5	....	11.0	12.0	12.3	....
Bulgarian cultured milk	3	....	12.0	10.0	12.0	13.0
Merrell-Soule dried whole lactic acid milk (cultured)	18	14.0	11.5	12.0	11.5	11.1
Mixed feeding	3	....	12.2	12.0	12.0	10.3

infants were larger. By the ninth week the infants in all the groups showed a considerable diminution in hemoglobin from the estimations at five weeks, with slight improvement by the sixteenth week and on through to the twenty-fourth week.

The end-results in the breast fed group and in the group receiving dried lactic acid milk only throughout the period of thirty-two weeks were practically the same.

Infections.—Forty-six of our group of eighty-five infants had infections. Some of these had more than one infection. The total number was as follows:

Breast Fed: In the group of eighteen infants, infections developed in ten: rhinopharyngitis, eight; bronchitis, two; otitis media, one. In one infant with rhinopharyngitis, otitis media developed, and one had two attacks of rhinopharyngitis.

Breast Fed plus Complement: In the group of nineteen infants, infections developed in ten: rhinopharyngitis, nine; bronchitis, two; otitis media, two. Bronchitis and otitis media developed in two of the infants with rhinopharyngtis, and two had rhinopharyngitis on two occasions.

Artificially Fed: In the group of forty-eight infants, infections developed in twenty-six: rhinopharyngitis, nineteen; bronchitis, fourteen; otitis media, ten; cervical adenitis, one. In six of the rhinopharyngitis cases, otitis media developed. Of the fourteen cases of bronchitis, eight developed subsequent to rhinopharyngitis and four of these were complicated by otitis media.

Furunculosis: Furunculosis did not develop in any infant in this series. One infant on sweet cow's milk feeding on admission, when 6 weeks of age had moderately severe furunculosis. The infant was placed on Merrell-Soule lactic acid milk and was given quartz light exposures. The furunculosis cleared during the following three weeks. There were no cases of syphilis or tuberculosis in our series.

In one infant on lactic acid milk, not included in the foregoing eighty-five cases, bronchopneumonia developed and the child died four weeks after entering the clinic. In this infant, diarrhea developed first, and the feeding was changed by the mother to sweet milk without consultation. Death was due to pneumonia.

Summary of Infections: The incidence of infection in the breast fed, breast plus complement and artificially fed infants was approximately the same: 55, 53 and 54 per cent, respectively. The infections in the artificially fed were, however, more severe. Bronchitis and otitis media were seen in 41 per cent of the artificially fed as compared with 11 per cent in the breast fed group.

It should be noted that our feeding experiment with most of the artificially fed infants was started between the months of December and April. Most of the artificially fed infants quoted in this group were started on their respective feedings during their first month of life.

We were unable to distinguish any definite difference in the convalescence from infections in the infants fed on dried lactic acid milk as compared with those on sweet milk plus U. S. P. lactic acid and cultured sweet milk.

Eczema.—Of the eighty-five infants, four showed moderately severe and quite generalized eczema, two of these, while on breast feeding exclusively, one on breast plus Merrell-Soule dried lactic acid milk and one on Merrel-Soule dried lactic acid milk only. Thirty-two other infants showed more or less evidence of skin eruption of an eczematoid type. Most of these were of the dry form or the exuding surfaces were limited to small areas, with a minimum amount of crusting. Nine of these were in infants breast fed exclusively and twelve were in breast fed complemented by dried lactic acid milk. The rash was noted during the first month in twelve of these infants while still on breast or so near the beginning of complemental feeding that it was impossible to judge the relative importance of the additional artificial food. Eleven were in those cases in which dried lactic acid milk only was given.

All the mild cases cleared up spontaneously, without change of diet, before the end of the experiment. Only local applications were used, consisting of olive oil, zinc oxide ointment and in a few cases mild tar ointment.

Skin sensitization tests were made on twelve of the more severe types, without any positive results.

Rickets.—Of the eighteen breast fed infants, one showed mild clinical rickets between the fifth and ninth months. Roentgenograms in this case were negative. Only five of the infants were on breast feeding exclusively for a period longer than twenty-five weeks. This, in large part, accounts for the low percentage of cases of rickets recorded in the breast fed group.

Of the eight breast fed infants in whom the feeding was later complemented by Merrell-Soule dried lactic acid milk, two had mild rickets, with positive roentgenograms in one, and one had moderate rickets with considerable bone change. In the two infants showing rickets by x-rays, the one with considerable bone change was on breast and complement to sixteen weeks, after

which she was on Merrell-Soule dried milk for the following five months. The second infant showing moderate bone changes had been on breast milk complemented by Merrell-Soule for fifteen weeks and received the Merrell-Soule dried milk for the following four months. This infant, the only one showing any considerable bone change in our entire group of eighty-five cases, had a moderate case of eczema and a diarrhea developed which necessitated hospitalization for a period of two weeks during her fifth month.

Of the seven infants in whom breast feedings were complemented with Mead Johnson dried lactic acid milk, mild clinical rickets developed in two and in one moderate clinical rickets. None of these showed roentgen evidence of bone change.

Of the five infants on fluid cultured lactic acid milk, mild clinical rickets with slight bone changes developed in one, and moderate clinical rickets without roentgen evidence in one.

Of five infants on sweet cow's milk plus U. S. P. lactic acid milk, mild clinical rickets with slight bone changes developed in one.

Of thirty infants on dried Merrell-Soule lactic acid milk, six showed mild clinical rickets and one of these slight bone changes. These thirty infants were all fed dried lactic acid milk from the third week of life, and twenty of these were on this feeding for six months or longer, and twelve of them remained on this diet through their eighth month.

Of the entire group of eight-five cases, only one case showed marked bone changes. This infant had eczema, and diarrhea developed during the fifth month which required hospitalization for two weeks. The diet during the first fifteen weeks was breast milk complemented by Merrell-Soule dried lactic acid milk, the latter feeding being continued through the eighth month. Rickets was evidenced clinically in mild degree in thirteen of our cases and in three cases it was of moderate degree. Of these, four showed slight roentgen changes and the one previously described more marked changes.

Of the thirty infants on dried lactic acid milk for periods of from five to nine months, dated from the third week of life, only six showed mild clinical rickets and only one of these showed slight bone changes, in roentgenograms.

CONCLUSIONS

Because of our inability to find references in the literature regarding the subject, this comparative feeding study was started with the hope of evaluating the effect on growth and development of infants following long continued feeding with dried lactic acid milks.

The clinical results indicate that dried lactic acid milks can be used under the same conditions as cultured sweet milk and cow's milk plus U. S. P. lactic acid.

104 South Michigan Boulevard.

The Acuteness of Cerebration.—Most symptoms, as you know, are dependent solely on some interference or perversion of a physiological process; and though in many instances an anatomical lesion is responsible for the perversion of function, this is not always true. One person, for instance, vomits at a sickening sight as well as in cancer of the stomach. Tachycardia and palpitation are frequently referable to some psychic disturbance, while excitement and anger increase the blood pressure, and emotional conflicts cause a sense of great fatigue. Such abnormal sensations, in order to become symptoms, must first come into the field of consciousness; and consequently symptoms are in simple terms but part and parcel of the patient's cerebration.—Longcope, W. T.: *Bull. Johns Hopkins Hosp.* **50**:4 (Jan.) 1932.

STREPTOCOCCIC MENINGITIS

RECOVERY IN THREE CASES *

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Instances of recovery from streptococcic meningitis are exceedingly few. Kolmer [1] states that the mortality of diffuse or generalized streptococcic meningitis is nearly 100 per cent, and also stresses the importance of radical forms of treatment in this dreadful disease. It seems, therefore, worth while to record three recoveries, particularly since all these patients were treated rather conservatively.

REPORT OF CASES

CASE 1.—J. P., a boy, aged 6 years, had a tonsillectomy performed, June 17, 1930. There was a slight hemorrhage from the left tonsillar fossa which required ligation. Shortly after the operation the child suddenly collapsed and became dyspneic and cyanotic. This condition, however, cleared up after a short interval. Several hours later the child became delirious and developed a fever of 103 F. There were no other symptoms at that time. June 18, the child began to complain of severe headache, had projectile vomiting, and the temperature mounted to 106 F. His condition became still worse on the morning of June 19.

Physical examination, June 19, showed the patient to be acutely ill but quite clear mentally. The temperature was 104 F., the pulse 130, and the respiration 20. The throat had the usual postoperative appearance, and there was moderate congestion of the right ear drum. The heart was normal and the lungs were clear. There was marked rigidity of the neck and positive Brudzinski and Kernig signs. The pupils were equal and reacted well to light. The biceps, patellar and abdominal reflexes were all present. The Babinski sign was negative but there was a positive Oppenheim on the left. There was no rash of any kind. On lumbar puncture, 40 cc. of cloudy fluid under markedly increased pressure was withdrawn, and 20 cc. of antimeningococcic serum was injected intraspinally. The examination of the spinal fluid showed a large increase of cells, practically all polymorphonuclears, a rather slight increase in albumin and globulin, and a slight diminution in the amount of sugar. The smear showed an enormous number of gram-positive extracellular cocci in pairs and chains. The culture was positive for these organisms in eighteen hours. On further bacteriologic study, this organism failed to show hemolysis or discoloration on the blood agar plate during incubation or refrigeration. The sugar fermentation tests were positive for mannite, lactose, saccharose and inulin, and negative for salicin and raffinose. In accordance with the work of Brown,[2] this organism was definitely classified as a nonhemolytic streptococcus of the gamma variety, group 6, subgroup 3.

June 20, the patient's general condition was somewhat worse and the temperature mounted to 106 F. A lumbar puncture was again performed and 40 cc. of cloudy and slightly blood-tinged fluid was removed, and 20 cc. of antistreptococcic (antiscarlatinal) serum was injected intraspinally. Examination of the spinal fluid this time showed a large increase of cells, 98 per cent of which were polymorphonuclears. There was a moderate increase of albumin and globulin, and the sugar was normal. Gram-positive cocci were found on smear but not on culture.

June 21 there was a marked improvement in the clinical picture. The child was distinctly brighter and the temperature dropped to 99.5 F. Lumbar puncture yielded 40 cc. of slightly cloudy fluid with a web; 20 cc. of the antistreptococcic serum was again injected. The fluid still showed a large increase of

* From the Meningitis Division of the Research Laboratory, Department of Health.

1. Kolmer, J. A.: Pneumococcus and Streptococcus Meningitis, J. A. M. A. **92**: 874 (March 16) 1929.
2. Brown, J. H.: Monograph 9, Rockefeller Institute, 1919.

polymorphonuclears, a moderate increase of protein, and a normal sugar content. No organisms were found either on smear or on culture.

June 22 the child continued to improve. No spinal tap was done on this date.

June 23 the patient's condition remained satisfactory. A spinal tap was performed and 40 cc. of nearly clear fluid with a web was withdrawn. No serum was administered this time. Examination of the fluid showed a moderately large increase of cells, most of which were degenerated polymorphonuclears. There was still a moderate increase of protein and a normal sugar. The smear and culture remained negative for organisms.

June 24, lumbar puncture was performed merely for the purpose of drainage, and 45 cc. of nearly clear fluid with a web was obtained. No serum was given. There was still a large increase of cells in the fluid, but only 50 per cent of these were polymorphonuclears. There was also a considerable amount of fibrin. The protein was slightly increased, and the sugar was normal. Organisms were not found either on smear or on culture.

From this time on the child's convalescence was satisfactory. The temperature fell to normal and the patient was free from any signs or symptoms. A spinal tap, June 27, yielded 45 cc. of practically normal fluid.

The occurrence of a sudden attack of syncope with cyanosis and dyspnea points to a postoperative embolic phenomenon. It is very likely, then, that the development of the meningitis shortly after was of embolic origin. It is also important to note that improvement in the spinal fluid was apparent even before the administration of the antistreptococcic serum. Furthermore, marked progress in the clinical course followed the second lumbar puncture and after the use of only one dose of the serum. One must also bear in mind that the causative organism in this case was a nonhemolytic streptococcus. In view of these facts, it is difficult to attribute the favorable outcome to serum therapy. It is more likely that the spinal drainage, although only moderate, was the important factor in the progressive recovery in this case.

CASE 2.—R. G., a girl, aged 8 years, following an infection of the upper respiratory tract, developed an otitis media, April 4, 1931. One week later she began to complain of severe headache, and the temperature rose to 104 F.

Physical examination, April 10, showed the child to be acutely ill. The temperature was 104, the pulse 140, and the respiration 36. The throat was congested. The pupils were unequal, the right being larger than the left, and reacted sluggishly to light. The conjunctivae were markedly injected. There was a thick purulent discharge from the left ear, and there was definite tenderness over the left mastoid. Except for the rapid rate, the heart was normal. The lungs were clear. The abdomen was soft but somewhat tender throughout. The spleen was not felt. There was no adenopathy. All the reflexes appeared normal. The Kernig, Brudzinski and Babinski signs were all negative. There was, however, definite stiffness of the neck. On lumbar puncture, about 30 cc. of cloudy fluid under increased pressure was withdrawn and 20 cc. of antimeningococcic serum was injected intraspinally. Examination of the spinal fluid showed 1,600 cells, practically all polymorphonuclears. There was a moderate increase in protein and marked diminution in the amount of sugar. The smear showed gram-positive extracellular cocci in pairs and chains. The same organisms were found on culture and were identified as streptococci.

April 11, the patient's condition was apparently worse, as the temperature mounted to 106 F. Lumbar puncture yielded a cloudy fluid with manifestations similar to those of the preceding tap, except that culture was sterile. Twenty cubic centimeters of antimeningococcic serum was again injected intrathecally.

April 12 there was a remarkable improvement in the patient's general condition and the temperature dropped to normal. No spinal tap was done.

April 13 the temperature remained normal, and improvement continued. Lumbar puncture yielded a slightly cloudy fluid with 470 cells, mostly polymorphonuclears. There was a moderate increase in albumin and globulin. The sugar rose to 35.09 mg. per hundred cubic centimeters. The smear still showed the presence of organisms, but the culture remained sterile.

April 14 there were no longer any signs of meningeal irritation. The spinal fluid obtained on this date was practically clear and contained 210 cells, with a slight preponderance of polymorphonuclears. There was a slight increase in the protein, but the sugar was normal, 50 mg. per hundred cubic centimeters. This fluid was negative for organisms by smear and sterile by culture.

April 16, the satisfactory condition continued. The spinal fluid was clear and contained 141 cells, most of which were mononuclears. The protein and sugar content were normal. No organisms were found either on smear or on culture.

The convalescence was interrupted by a febrile period lasting about ten days. During that time the temperature ranged between 100 and 104 F. Except for the fever, for which there was no satisfactory explanation, the child appeared to be in good condition. The spinal fluid remained normal. With the subsidence of the fever, the patient progressed satisfactorily to complete recovery.

One is definitely impressed with the remarkable improvement in the clinical condition after the second lumbar puncture. The spinal fluid became practically normal after the third tap. As only antimeningococcic serum was used, one cannot attribute the beneficial results to specific serotherapy. It is also impossible to decide whether or not a nonspecific foreign protein effect played a part in the recovery in this case.

CASE 3.—D. F., a boy, aged 15 years, was taken ill suddenly, June 16, 1931, with headache, vomiting, and fever of 103 F. He also complained of a sore throat and a pain in the back of the neck and over the spine.

Physical examination, June 18, showed the patient to be acutely ill and quite irritable. There was marked congestion of the pharynx and tonsils. The lungs were clear, and the heart was normal. There was no enlargement of the lymph glands. The spleen, however, was palpable. There was no cutaneous eruption of any kind, but there was a moderate tache cérébrale. Hyperesthesia was pronounced. The neck was markedly rigid. The Kernig and Brudzinski signs were positive. The pupils were equal and reacted well to light and in accommodation. The biceps reflexes could not be elicited, but the patellar and abdominal reflexes were normal. The Babinski and confirmatory signs were all negative. The temperature was 103 F., pulse 110, and respirations 24. Fundoscopic examination showed no abnormality. On lumbar puncture, 45 cc. of cloudy fluid was withdrawn, and 20 cc. of antimeningococcic serum was injected.

Examination of the spinal fluid showed a large increase of cells, mostly polymorphonuclears. There was a moderate increase in the protein, and there was a marked diminution in the amount of sugar. The smear showed numerous gram-positive cocci in pairs and chains. The culture, however, remained negative after ninety-six hours.

June 19 the patient's general condition was somewhat improved, although signs of meningeal irritation were still pronounced. Following the removal of 18 cc. of cloudy fluid, 20 cc. of antistreptococcic (antiscarlatinal) serum was injected intraspinally. Examination of the fluid still showed a large increase of cells, mostly polymorphonuclears. As compared with the preceding fluid, there was a decided drop in the amount of protein and a rise in the amount of sugar. No organisms could be found either on smear or on culture.

June 20, clinical improvement continued. On spinal tap, 45 cc. of slightly cloudy fluid was obtained and 20 cc. of antistreptococcic serum was again injected intraspinally. The fluid still showed a large increase in cells, mostly polymorphonuclears. The protein and sugar contents were about the same as on the preceding day.

From this time on the patient continued to show progressive improvement. Three more spinal taps were done for relief of pressure. On examination, these fluids were practically normal.

Except for a serum rash on the sixth day of his illness, the patient's convalescence was uneventful and his recovery was complete.

In view of the severe throat inflammation, it is probable that the meningitis was of tonsillar origin. Although the organism could not be definitely classified because of the persistently negative cultures, the morphology on smear was certainly that of streptococcus. It does not seem to me that the antistreptococcic serum played any part in the recovery, since definite improvement followed the first spinal tap and the administration of a single dose of antimeningococcic serum.

COMMENT

The literature on the subject of streptococcic meningitis was admirably reviewed by Rosenberg and Nottley.[3] These writers enumerated forty-one recoveries but overlooked the report of a case by Peabody[4] in 1908. Since the publication of their paper, Leishman[5] reported a recovery in 1931. Including the three cases of the present report, there are now on record forty-six recoveries from streptococcic meningitis. It is quite probable that a number of recovered cases have not appeared in the literature.

*Recorded Recoveries from Streptococcic Meningitis**

Author	Year	Sex†	Age, Years	Possible Source of Infection	Method of Treatment
Schenke and Streit	1901	♂	35	Otitis and mastoiditis	Mastoidectomy
Schulze, Walter	1903	♂	12	Otitis	Lumbar taps
Voss	1905	♀	7	Otitis after scarlet fever	Mastoidectomy
Alexander, G.	1908	♂	10	Otitis	Mastoidectomy and lumbar taps
Alexander, G.	1908	♂	24	Otitis	Mastoidectomy and lumbar taps
Peabody, G. L.	1908	♂	37	Undetermined; possible head trauma	Spinal taps and antistreptococcic serum intraspinally
Netter, A.	1909	♀	7	Otitis after measles	Lumbar taps
Mygind, H.	1910	♂	13	Otitis	Mastoidectomy
Graef, C., and Wynkoop, R. B.	1910	♀	24	Submucous resection of septum	Autogenous streptococcic vaccine
Obnacker, Paul	1911	♀	5	Otitis after scarlet fever	Mastoidectomy and antistreptococcic serum intraspinally
Tedesco, Fritz	1911	♀	20	Undetermined	Lumbar taps
Day, E. W.	1913	Not given	Not given	Brain abscess	Dural drainage
Day, E. W.	1913	♀	19	Otitis and mastoiditis	Antistreptococcus serum intraspinally, autogenous streptococcic vaccine subcutaneously
Barth	1914	♀	19	Trauma to back	Lumbar laminectomy
Leighton and Pringle	1915	♀	8	Otitis and mastoiditis	Lumbar laminectomy
Leighton and Pringle	1915	♂	65	Head trauma	Lumbar laminectomy
Du Bois, P. L., and Neal, J. B.	1915	♂	26	Otitis	Antistreptococcic serum intravenously and intraspinally; streptococcic vaccine subcutaneously; methenamine
McKenzie, Dan	1915	♂	50	Otitis and mastoiditis	Dural drainage
Crockett, E. A.	1916	♂	16	Otitis after measles	Lumbar taps and antistreptococcic serum intraspinally
Bondy	1917	♂	21	Otitis and mastoiditis	Mastoidectomy and spinal taps
Bondy	1917	♂	43	Otitis	Labyrinthotomy
Bondy	1917	♂	28	Otitis and mastoiditis	Lumbar taps
Weaver, G. H.	1919	♀	25	Undetermined	Antistreptococcic serum
Watson-Williams	1920	♂	37	Otitis	Mastoidectomy, labyrinthotomy, spinal taps, colloidal silver intraspinally
Neal, Josephine B.	1921	♀	5	Otitis	Lumbar taps
Shaw, Henry	1921	♂	8	Otitis	Lumbar taps
Acker, G. N.	1921	♂	12	Otitis	Lumbar taps
Scott, Sidney	1921	♀	10	Otitis and mastoiditis	Mastoidectomy
Patzig, D.	1922	Not given	Not given	Undetermined, possible head trauma	Lumbar taps
Bowers, W. C.	1922	♂	34	Otitis and mastoid operation	Lumbar taps and jugular ligation
Yerger, C. P.	1922	♀	40	Otitis following measles	Mastoidectomy
Askey, Stephen	1923	♂	12	Otitis	Mastoidectomy
Dandy, Walter	1924	♂	6	Head trauma	Surgical drainage
Dandy, Walter	1924	♂	49	Removal of brain tumor	Surgical drainage
Vining and Thompson	1924	♀	10	Tonsillitis	Lumbar taps, antimeningococcic and antistreptococcic serums
Urbantschitch, E.	1926	♂	21 mo.	Undetermined	Mastoidectomy and spinal taps
Neal, Josephine B., and Jones, A.	1927	♀	7	Otitis after scarlet fever	Lumbar and cisternal taps; antiscarlatinal serum, acriflavine base
Huenekens, E. J., and Stoesser, A. V.	1927	♀	7	Otitis	Lumbar taps, saline irrigations; mastoidectomy
McCarthy, F. P.	1927	♂	25	Head trauma	Lumbar taps
Lang	1928	♂	2	Tonsillitis	Antimeningococcic serum
Neal, Josephine B.	1930	♂	11	Otitis after scarlet fever	Lumbar and cisternal taps; antiscarlatinal serum
Rosenberg, Lester, and Nottley, H. W.	1931	♀	6	Tonsillitis	Lumbar taps, irrigation with acriflavine; antimeningococcic and antistreptococcic serums
Leishman, Arnot	1931	♀	16	Otitis	Lumbar taps, mercurochrome intraspinally and intravenously
Appelbaum, Emanuel	1931	♂	6	Tonsillectomy	Lumbar taps, antimeningococcic and antistreptococcic serums
Appelbaum, Emanuel	1931	♀	8	Otitis	Lumbar taps, antimeningococcic serum
Appelbaum, Emanuel	1931	♂	15	Tonsillitis	Lumbar taps, antimeningococcic and antistreptococcic serums

* Based on chart by Rosenberg and Nottley.[3]
† In this column, ♂ denotes male; ♀, female.

In going over the reports, one is impressed with the fact that in the majority of these cases the source of infection was traceable to otitis media, often in combination with mastoiditis. In some instances the otitis followed acute infections, such as scarlet fever or measles. In four cases an acute tonsillitis seemed to be the source of infection. Operations on the upper respiratory tract probably accounted for two cases—a submucous resection of the nasal septum in one, and tonsillectomy with probable embolism in another. A case occurred after the removal of a brain tumor. Head or spine trauma was undoubtedly a causative factor in a few instances. In some cases, however, no definite source of infection could be demonstrated.

A great deal of interest has centered around the question of therapy. Indeed, a great variety of procedures have been resorted to in the treatment of streptococcic meningitis. In many cases, repeated spinal taps constituted the only form of therapy. Intraspinal injection of antimeningococcic or antistreptococcic

3. Rosenberg, Lester; and Nottley, H. W.: Recovery from Streptococcus Meningitis, Ann. Int. Med. **4**: 1154 (March) 1931.
4. Peabody, G. L.: Preliminary Report of a Case of Cerebrospinal Meningitis of Streptococcus Origin Apparently Cured by Subdural Injection of Antistreptococcus Serum, M. Rec., March 14, 1908.
5. Leishman, Arnot: A Recovered Case of Streptococcus Meningitis, Canad. M. A. J. **24**: 424 (March) 1931.

serum or both, following the lumbar punctures, was resorted to in many instances. The use of antistreptococcic serum intravenously as well as intraspinally was also recorded. One worker, in addition to tapping the spine, performed a jugular ligation. Mastoidectomy, alone or combined with lumbar punctures, followed by irrigation of the spinal canal with saline solution, was a frequent procedure. In some cases, following the mastoidectomy and spinal drainage, antistreptococcic serum was injected intraspinally. The injection of a silver compound intrathecally was reported by one worker. Labyrinthotomy was an occasional procedure. Lumbar laminectomy with continuous drainage was employed by a number of surgeons. Draining of the spinal fluid through the cerebral dura, alone or combined with drainage through the internal ear, was also recorded. In one instance a wire drain was inserted through the internal ear and dura. Some of the workers instituted drainage through the cisterna magna. In one case an autogenous streptococcic vaccine was given subcutaneously. Irrigation of the spinal canal with an acriflavine base solution, in conjunction with the intrathecal administration of antistreptococcic serum, was resorted to in two instances. One worker obtained a successful result by employing a mercurochrome solution (1 per cent) intraspinally and intravenously. It may be of interest to mention here Kolmer's [6] method of administering antistreptococcus serum and some chemical dye intracarotidally as well as intracisternally, in conjunction with frequent drainage of the spinal fluid. The aim of all workers has been to provide adequate drainage of the cerebrospinal fluid and to get to the diseased area some antibacterial substance, such as serum, chemical agent, or both.

In view of the great variety of methods employed, it is difficult to attribute the successful outcome in any of the recovered cases to a specific form of therapy. There does not appear to be sufficient evidence in favor of extensive or radical operative procedures. Certainly the three patients who are the subject of this report did remarkably well after only one or two spinal taps. As commented on previously, it is my impression that the antistreptococcic serum played no rôle in their recovery. It is, of course, impossible to say whether or not the antimeningococcic serum was of any benefit in a nonspecific manner. However, Neal [7] believes that in her two cases that followed scarlet fever the use of antiscarlatinal serum was of specific value. Prompt improvement after only one or two spinal taps was also noted by Netter,[8] Tedesco,[9] Patzig,[10] and Vining and Thompson.[11]

Of course, the possibility of spontaneous recovery must be borne in mind. Brieger [12] recorded spontaneous recoveries from experimental streptococcus meningitis in four out of fourteen dogs and in one out of three monkeys. Dandy [13] also has stressed the occurrence of spontaneous cures.

SUMMARY

No specific procedure can therefore be formulated for the treatment of streptococcic meningitis. Early spinal drainage, even though moderate, may be regarded as an important factor in the management of these cases. When Streptococcus hemolyticus is the causative organism, it seems quite logical to employ antiscarlatinal serum intraspinally. Surgical intervention should, of course, be resorted to for the removal of definite suppurative foci. Other therapeutic measures must, in the light of our present limited knowledge, be regarded as experimental. Finally, one must always bear in mind the possibility of spontaneous recovery from this disease.

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6. Kolmer, J. A.: Intracarotid Method of Treatment for Meningitis with Recoveries, J. A. M. A. **96**: 1358 (April 25) 1931.
7. Neal, Josephine B.: Personal communication to the author.
8. Netter, A.: Bull. et mém. Soc. méd. de hôp. de Paris **27**: 11, 1909.
9. Tedesco, Fritz: Wien med. Wchnschr. **61**: 1566, 1911.
10. Patzig, D.: Deutsches Arch. f. klin. Med. **139**: 111 (April) 1922.
11. Vining, C. W., and Thompson, H. P.: Brit. M. J. **2**: 667 (Oct. 11) 1924.
12. Brieger: Verhandl. d. deutsch. otol. Gesellsch., 21st Versammlung in Hanover, 1912, p. 77.
13. Dandy, W. E.: Surg., Gynec. & Obst. **39**: 760 (Dec.) 1924.

CYSTITIS EMPHYSEMATOSA

REVIEW OF THE LITERATURE WITH REPORT OF AN AUTHENTIC CASE TERMINATING IN RECOVERY *

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Until 1926, when Hueper [1] reported eleven cases of this rare lesion of the urinary bladder, cystitis emphysematosa received little recognition. With the twelve cases recently reported by Mills [2] within a comparatively short period of time, a total of twenty-four cases of this disease had been reported to date. Judging from these reports, it would seem that the lesion is not as rare as had been previously supposed, and, as urologists become more conscious of the existence of such a disease entity, other cases will find their way into the literature.

With the possible exception of Lautenschläger's [3] case, all reports thus far have been of accidental observations at autopsy. Lautenschläger's patient, a man, aged 34, was admitted to the Heidelberg Clinic, presenting uremia. Two years before, he had manifested nephritic symptoms and a year prior to admission had suffered from intermittent pains in the left loin. On one occasion he had had an attack of left renal colic. The patient died four days after admission to the hospital; the following clinical diagnosis was made; uremia, uremic pericarditis, pleurisy with effusion, chronic nephritis, ascites, suspicion of right hydronephrosis associated with nephrolithiasis, and cystitis. Autopsy corroborated this diagnosis and in addition revealed a markedly contracted right kidney with syphilitic changes, gummas of the left testicle, and cystitis emphysematosa. Lautenschläger states that the cystoscopic observations corresponded to the postmortem appearance of the bladder, but, from the clinical diagnosis of "cystitis" made before death, the validity of his claim to an antemortem diagnosis appears doubtful. This opinion is shared by Mills.

ETIOLOGY

The disease is more common in females than in males; of the twenty-four cases reported, only five

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1. Hueper, Wilhelm: Cystitis Emphysematosa, Am. J. Path. **2**: 159-164 (March) 1926.
2. Mills, R. G.: Cystitis Emphysematosa; Report of Cases in Men, J. Urol. **23**: 289 (March) 1930; Cystitis Emphysematosa. II. Report of a Series of Cases in Women, J. A. M. A. **94**: 321 (Feb. 1) 1930; Cystitis Emphysematosa: III. Report of an Additional Case in a Man, Associated with Cystitis Cystica J. Urol. **24**: 217 (Sept.) 1930; Cystitis Emphysematosa: IV. Report of Three Additional Cases in Women, Surg. Gynec. & Obst. **51**: 545 (Oct.) 1930; Cystitis Emphysematosa: V. A Case in a Woman in Which Trauma Appeared to be an Etiologic Factor, Am. J. Obst. & Gynec. **20**: 688 (Nov.) 1930.
3. Lautenschläger, E. L.: Die Morphologie und Genese der Bläschenbildungen in der Harnblase der Tiere und des Menschen, Stuttgart, 1911.

occurred in males. Earlier writers, such as Nowicki [4] and Hueper, believed that the lesion was probably restricted to the female sex. Hueper's compilation of eleven cases from the literature showed an apparent restriction to females, but he stated that this limitation might have been accidental on account of the small number of cases reported.

The disease is predominantly one of adult life, only one case having been reported in childhood, in a girl, aged 12 years. The oldest patient observed was a man, aged 77. There is a fairly equal distribution of cases among the age groups from the second to the seventh decades.

Although the etiology of cystitis emphysematosa is still controversial, it is generally believed that bacteria play an important rôle. Bacteria of the bacillus coli type have been demonstrated in the bladder wall or found on cultural examinations by Eisenlohr,[5] Kedrowsky,[6] Schoenberg [7] and Nowicki. Schoenberg, in one of his cases, isolated a gas-producing organism with the morphologic and cultural characteristics of Bacillus coli, and in animal experiments with it he was able to produce changes similar to cystitis emphysematosa. Nowicki believes that the disease is produced by the invasion of Bacillus coli into the bladder wall, either through the blood stream or through a defect in the bladder epithelium. However, cystitis is a constant accompaniment of cystitis emphysematosa, and since Bacillus coli may be simply the etiologic agent of such cystitis, the importance of this organism in the etiology of cystitis emphysematosa must not be overestimated.

PATHOLOGY

The lesion is characterized macroscopically by the presence of gas-containing vesicles in the bladder wall. These may occur singly or in groups in any portion of the bladder or may cover the entire organ more or less uniformly. They appear as transparent, rounded elevations which protrude into the lumen of the bladder. The vesicles vary in diameter from 1 to 6 mm. They may be present in the mucosa alone, in the mucosa and submucosa, or in the entire wall of the bladder. The nature of the gas contained in the vesicles has not been determined. The thickening of the bladder wall is usually due to swelling of the mucosa and submucosa. The bladder presents evidence of an acute or chronic inflammation with hemorrhagic areas lying between the vesicles.

Microscopically, desquamation of the epithelial covering of the bladder overlying the vesicles is commonly observed. The vesicles themselves may be lined by endothelial cells or by homogeneous strands of fibers. The former picture is interpreted as a lymphatic vessel which has become distended with gas. In the second type it may be assumed that there has been a spread of gas into the soft tissue, and the wall of a vesicle so formed is made up of compressed fibers of the interstitial tissue of the invaded area. It has been demonstrated that the vesicles communicate with one another. There may be evidences of an acute inflammatory reaction in the form of leukocytic infiltrations and necrosis in the mucosa and submucosa, or there may be signs of a chronic inflammation in the form of lymphocytic collections and giant cells. Mills has reported a case associated with cystitis cystica which represents an end-result of chronic cystitis. Hemorrhage is an almost constant feature, being most pronounced in the vicinity of the vesicles.

4. Nowicki, W.: Ueber chronisch entstehendes Gasbläschenemphysem, Virchows Arch. f. path. Anat. **198**: 143, 1909; Ueber Harnblasenemphysem, ibid. **205**: 126, 1914; Zur Entstehung und Aetiologie des Harnblasenemphysems, ibid. **253**: 1, 1924.

5. Eisenlohr, W.: Das interstitelle Vaginal-, Darm- und Harnblasenemphysem zurückgeführt auf gasentwickelnde Bakterien, Beitr. z. path. Anat. u. z. allg. Path. **3**: 101, 1888.

6. Kedrowsky, W. J.: Pathologisch-anatomische Untersuchung eines Falles von Cystitis emphysematosa, Centralbl. f. allg. Path. u. path. Anat. **9**: 817, 1898.

7. Schoenberg, S.: Zur Aetiologie der Cystitis emphysematosa, ein Beitrag zur Gasbildung der Bakterien der Koligruppe, Frankfurt. Ztschr. f. Path. **12**: 289, 1913.

SYMPTOMATOLOGY

In seventeen of the twenty-four reported cases there were no symptoms referable to the urinary tract. When such symptoms were present, they were usually due to the accompanying urologic pathologic condition aside from cystitis emphysematosa. Two cases were associated with nephrolithiasis, one with chronic glomerular nephritis and another with a long continued chronic cystitis and pyuria. In three cases there were frequency and dysuria with no other lesion in the urinary tract except cystitis emphysematosa.

REPORT OF CASE

J. C., aged 56, an Italian, a widower, a mason by occupation, was first seen by one of us (A. R.) at his office at 4 p. m., Oct. 17, 1929, with an intense hematuria of three days' duration. Slight bilateral lumbar pain, more noticeable on the left side, marked urinary frequency and dysuria with difficulty of urination were also present. He gave a history of hematuria four years before, which lasted for three days and was accompanied by some pain in both flanks, more marked on the left. Since then he noticed some dysuria and difficulty of urination with an interrupted stream, diurnal frequency about every hour and nocturia from two to four times. He had malaria at 31 and gonorrhea at 36 years of age. He said that he had not had syphilis.

Owing to the distress from an overdistended bladder which extended up to the umbilicus, a 24 F. silk catheter was introduced into the bladder and 30 ounces of dark bloody urine was withdrawn and several blood clots were removed by irrigation with 1:5,000 acriflavine dye-dextrose solution. A roentgenogram of the urinary tract was unsatisfactory on account of the large amount of gas shadows overlying the kidneys. The patient's condition being rather poor for any extensive cystoscopic search for the source of the bleeding, immediate hospitalization was advised. He was accordingly admitted to the Jewish Hospital in the private urologic service of Dr. Ravich early the same evening.

The patient was fairly well nourished. He was in a state of collapse. The temperature was 100.2 F., pulse 102 and weak in quality, and respirations 22. Nothing abnormal was noted in the examination of the head, neck and chest. There was fulness in the lower portion of the abdomen, due to a distended bladder, but, aside from this, abdominal examination gave negative results. The external genitalia were normal. Rectal examination revealed a small, freely movable prostate of normal consistency. The reflexes were normal. The hemoglobin was 70 per cent with 4 million erythrocytes, the white blood count 7,000, with a differential count of 72 per cent polymorphonuclears, 26 per cent lymphocytes and 2 per cent mononuclear and transitional cells.

The bladder was catheterized and the urine found to be very bloody. Cystoscopy was attempted, but even after the removal of several blood clots the hematuria continued so profuse that, despite prolonged irrigation, proper visualization of the bladder was impossible. In view of this continued profuse bleeding of apparently vesical origin, immediate cystostomy was deemed necessary as a life saving measure.

Accordingly, at 11:30 p. m., under local block anesthesia with 0.5 per cent solution of procaine hydrochloride, the bladder, approached extraperitoneally through a midline suprapubic incision, was found to be distended and externally showed a moderate degree of thickening. The organ was opened longitudinally and a large amount of fresh blood and clots

was evacuated. Excellent wide exposure was obtained by the use of a self-retaining bladder retractor and a Cameron light inserted into the bladder. The organ presented the characteristic picture of cystitis emphysematosa. The bladder wall was thick and edematous, all layers of the viscus being involved, but more especially the mucosa and submucosa. The mucosa of the entire bladder was covered with numerous clear, gas-containing vesicles varying in size from a pinhead to a large

Fig. 1.—Anteroposterior view of cystogram, showing the serrated outline of the bladder below and the smooth outline of the diverticulum above. Thus, the diverticulum is considerably larger than the bladder. The Pezzar suprapubic tube and urethral catheter are shown in the lower part of the illustration.

pea. Between these vesicles the mucosa was hemorrhagic everywhere. From an area on the base of the bladder considerable oozing was noted, which was attributed to the constant seepage of blood from the rest of the engorged bladder collecting at the base. The edema, vesicle formation and hemorrhages were most marked on the floor of the bladder and became less pronounced as one approached the vault. The vesicles were fewer in number and smaller in size in the latter location than elsewhere. The prostate was not enlarged and there was no evidence of vesical calculus, neoplasm or diverticulum in spite of the most careful, painstaking and thorough search by palpation and visualization for the causation of this hemorrhagic condition. The interureteral ridge was considerably hypertrophied. Both ureter orifices were patulous.

In order to determine the possibility of renal hemorrhage presenting a basis for the hematuria, number 7 F. ureteral catheters were passed up each ureter through the opened bladder to both renal pelves without encountering any obstruction. There was a normal drip of crystal clear urine from each kidney. Nothing further having been found, it was felt that the bleeding would cease spontaneously if the bladder was kept empty and at absolute rest. Accordingly, a large Pezzar catheter was anchored in the vault of the bladder, the wound was closed around the tube and rubber drain in the space of Retzius, and the patient was returned to bed in better condition than before the operation.

The following day the patient's general condition had improved considerably. The suprapubic tube was draining well and showed a material subsidence of the hematuria. By the fourth postoperative day the urinary drainage no longer showed evidence of macroscopic hematuria.

Laboratory examination revealed: urine, alkaline; albumin, a trace; sugar, negative; numerous erythrocytes and pus cells. Colon bacilli were recovered on culture. Examinations for tubercle bacilli gave negative results, as did also examinations for animal parasites and their ova. Except for a moderate secondary anemia, complete blood study revealed normal conditions. The blood pressure was 162 systolic and 116 diastolic. The chemical analysis of the blood, in milligrams per hundred cubic centimeters of blood, showed sugar, 111; creatinine, 1.1; urea nitrogen, 10.5, and uric acid, 2.4. Intravenous phenolsulphonphthalein returned 55 per cent in the first hour and 20 per cent in the second hour. The Wassermann and Kahn reactions of the blood were negative. The blood culture was sterile. The wound around the tube healed rapidly by first intention.

On the seventeenth postoperative day, cystoscopy was performed with a Ravich cystoscope and revealed an intense generalized cystitis with several small vesicles about the vesical neck and in the vault of the bladder as the only probable remnants of the extensive cystitis emphysematosa observed at operation. Both ureteral orifices appeared normal. On the floor of the bladder behind the trigon there were a number of deep cellules, one of which seemed to be the orifice of a diverticulum. The cystoscope was passed into the interior of the diverticulum and 25 ounces of thickly purulent urine was evacuated from it in spite of the apparently satisfactory and fairly clear urinary drainage obtained from the bladder through the suprapubic tube. A cystogram (figs. 1 and 2) with 4 per cent sodium iodide solution showed a distended bladder extending up to the umbilicus, apparently pushed anteriorly and upward by a very large retention diverticulum, larger than the bladder, which on lateral view was found to extend upward and downward to the hollow of the sacrum.

Two days later, November 6, the patient was again submitted to operation. Under spinal anesthesia, supplemented by nitrous oxide and ether, the original suprapubic wound was reopened. The bladder wall was found to be considerably thickened with congestion of the mucosa, but no more vesicles could be seen. No evidence of neoplasm could be found after a thorough search. The bladder was mobilized down to the diverticulum. From within the bladder two fingers were inserted through the orifice of the diverticulum into the diverticular sac. This was found to extend down to the hollow of the sacrum, undermining the trigon almost down to the floor of the vesical neck, laterally on both sides of the bladder, and upward toward the posterior wall of the bladder.

Fig. 2.—Lateral view of cystogram shown in figure 1, demonstrating the large diverticulum above and behind the small bladder. The Pezzar tube is seen emerging from the vault of the bladder and the urethral catheter from the vesical neck below.

The diverticulum was delivered into the bladder by means of clamps and excised according to the Young technic. The diverticular opening was then closed with a chromic catgut suture from the outside, and cigaret drains were passed down to the diverticular bed on each side of the bladder. The somewhat contracted vesical neck was dilated with two fingers. A Pezzar catheter was then anchored into the vault of the bladder and the wound was closed around the tube and drains in layers.

The mucous membrane of the diverticulum was smooth but congested and in spots hemorrhagic. Histologic examination of the excised diverticulum showed that it consisted of a fibrous structure, the superficial layer of which was replaced by granular tissue, with numerous degenerating chronic inflammatory cells. The postoperative course following diverticulectomy was uneventful except for a pharyngitis with moderate fever, which developed on the eighteenth postoperative day and persisted for three days.

In order to determine the further disposition of the case, cystoscopy was again performed, December 3. This revealed the presence of a moderate generalized cystitis with several edematous areas on the posterior wall of the bladder and about the vesical neck with normal ureteral orifices. The site of the previously existing diverticulum was now represented by a very slight dimple. On the following day the suprapubic tube was removed, and twenty-four hours later the patient commenced voiding by the urethra without discomfort. During the next few days, urinary drainage from the suprapubic sinus gradually diminished and the amount of urine voided by way of the urethra increased correspondingly. In his ignorance, fearing further intervention for the relief of his suprapubic fistula, which was actually contemplated, the patient insisted on leaving the hospital and was released, December 7, against advice. At that time the suprapubic wound was clean and granulating satisfactorily but still drained considerable amounts of urine.

Although the patient has not been seen by the authors since his discharge from the hospital, he has been under the observation of his family physician, who examined him last in December, 1930. At that time the patient's general health was good and the suprapubic sinus was closed. There was occasional slight burning on urination but no frequency or nocturia. There had been no recurrence of hematuria. Urinalysis revealed a moderate pyuria. The patient feels so well that he refuses all treatment aimed at the relief of this condition.

SUMMARY

The case presented seems to be the only unassailably authentic case thus far reported of cystitis emphysematosa recognized in a living individual whose life was apparently saved by an early appreciation of the gravity of the condition, followed by operative intervention. The rapidly fulminating hemorrhage from a thickened inflamed bladder covered throughout its entire interior with numerous clear, gas-containing vesicles of varying sizes, interspersed with areas of edema and intense inflammation from which blood was oozing, was undoubtedly checked in time by this prompt operation. The associated findings of an infected vesical diverticulum and Bacillus coli in the urine no doubt played some unexplained rôle in the causation of this very rare disease. The patient was still alive and well at the time this paper was written, fifteen months after the operation was performed.

A short review of the twenty-four cases of cystitis emphysematosa reported thus far is presented, all of which were accidentally found at autopsy. The principal feature of the condition, the etiology of which is still controversial, is the presence of gas filled vesicles scattered over the mucosa and submucosa of the bladder, frequently associated with a hemorrhagic cystitis. According to Mills, these vesicles rapidly disappear during the routine preparation for pathologic study unless special precautions are observed for their preservation.

COMMENT

Cystitis emphysematosa as a disease entity was practically unknown until R. G. Mills forcibly and eloquently called the attention of the medical profession to its existence through a series of five noteworthy articles contributed during the past two years. That this author was able to collect twelve cases of this disease in such a short time proves conclusively that the condition is more prevalent than has been previously supposed. Undoubtedly, many such cases were overlooked out of sheer ignorance. As more reports find their way into the literature, physicians will be on the lookout for the condition and through earlier diagnosis some lives will be saved by prompt operative intervention.

Although the case cited fulfilled practically all the prerequisites of the disease, it was with some degree of hesitation that it was considered a true case of cystitis emphysematosa, since it differed from all the other cases reported by being the only one that was definitely recognized in the living. Furthermore, the patient is still alive and well fifteen months after operation. It was for this reason that we turned to Dr. Mills, with his more thorough knowledge of this disease, for corroboration. In his reply Dr. Mills was certain that this represented a true case of cystitis emphysematosa demonstrated in a living person. The following is a quotation from his letter: "I have a growing feeling and have expressed it quite definitely that surely this is not only a postmortem phenomenon, but that some one will recognize it during life. I guess you are the one. Your evidence seems definite enough to satisfy any one and I would advise you to publish a report of the case with that assertion." He recommends that any one who has a similar case in the future should carefully preserve the culture from the bladder wall or contents (Bacillus coli in the case cited) and attempt to reproduce the lesion in animals. It was not surprising to him that "the tissue removed contained no remnants of the vesicles, since even in autopsy specimens it was found necessary to fix the entire bladder in solution of formaldehyde first for several days until it had become quite hard and then cut the blocks. Otherwise the vesicles collapsed and were not satisfactory or were not even seen."

It is quite possible that the infection in the large diverticulum in this case was an important etiologic factor. The edema and vesicle formation in the bladder mucosa served to keep the diverticular orifice so completely occluded as to escape detection during the first operation, in spite of very careful search, and apparently kept the infected contents of the diverticulum under more or less tension.

It is apparent to the authors that prompt operation saved the life of the patient and that procrastination in the face of increasing collapse of the patient would have added another autopsy specimen to the series already reported. It is from their experience with this case that the authors make a plea for prompt cystostomy in all unexplained fulminating types of excessive hematuria of vesical origin. If this is done, many an otherwise fatal case may be saved.

We acknowledge with deep appreciation the kindness and helpfulness shown by Dr. Mills in the proper classification of the case cited.

59 Livingston Street.—967 Ocean Avenue.

THYMOPHYSIN AND WEAK PITUITARY EXTRACT

A COMPARISON IN FORTY CASES *

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In 1926, Temesváry [1] proposed the use of a mixture of pituitary extract and thymus in the first stage of labor. It was claimed that thymus modified the action of the pituitary extract, making the latter safe. Apparently there was the tacit assumption that pituitary extract alone could not be used, because no case reports were given wherein pituitary extract was employed.

Since Temesváry's first paper, considerable interest has been shown in thymus-pituitary mixtures, but none of the publications contain any results of the comparative use of pituitary extract and a thymus-pituitary mixture. I proposed to make such a study, using Thymophysin (the trade name of Temesváry's preparation) and a pituitary extract. The composition of Thymophysin has not been made public. The pituitary portion is stated to be "10 international units" per 1.1 cc. The thymus content is not declared.

There is some question of the actual strength of the pituitary portion of Thymophysin. Ampules purchased on the open market in this country had an activity of from 25 to 40 per cent of U. S. P. pituitary extract, as determined by the isolated uterus method.[2] To avoid confusion, it should be understood that a U. S. P. pituitary extract contains 10 international units per cubic centimeter. Thus the ampules of Thymophysin tested, instead of containing 9.1 international units per cubic centimeter, contained amounts varying from 2.3 to 3.6 units.

In making this comparative study, a 25 per cent U. S. P. pituitary extract was adopted, in the belief that it was preferable to use a weaker extract and then increase the amount injected, if necessary. The 25 per cent U. S. P. pituitary extract used was obtained from the Wilson Laboratories.

After this work was in progress, an article appeared by E. E. Nelson [3] in which he concluded that the Thymophysin examined by him contained from 25 to 33 per cent of that claimed on the labels, the methods he used being the oxytocic and the pressor.

TABLE 1.—*Results of Administration of Weak*

	Case	Parity	Pains Before Administration: Character	Pains Before Administration: Interval, Minutes	Pains After Administration: Character	Pains After Administration: Interval, Minutes	Blood Pressure: Before	Blood Pressure: After	Fetal Heart Rate: Before	Fetal Heart Rate: After
Results obtained with 25 per cent U. S. P. pituitary extract	1	I	Moderate	6	Strong	3	122/ 69	116/ 70	132	140
	2	V	Moderate	5	Strong	3	120/ 70	126/ 80	140	144
	3	V	Irregular; weak	..	Tetanic contractions		166/102	?	132	Irregular
	4	II	None	..	Irregular	Irregular	110/ 82	124/ 82	144	140
	5	I	Weak	15	Strong	3	132/ 86	142/ 88	144	140
	6	I	Weak	10	Strong	7	122/ 74	140/ 80	140	152
	7	I	Irregular	5	Strong	3	110/ 70	168/ 94	Irreg.	Anencephalic
	8	I	Weak	8	Strong	2	120/ 70	128/ 80	144	148
	9	III	Moderate	5	Strong	3	104/ 78	138/ 90	140	144
	10	I	Weak	25	Strong	5	128/ 80	146/ 92	132	Irregular
	11	I	Weak; irregular	..	Strong	3-4	150/100	162/110	136	112
	12	I	Moderate	3	Strong	2	110/ 80	120/ 80	160	160
	13	I	Weak; irregular	..	Strong	3	110/ 80	146/ 82	140	136
	14	I	Weak; irregular	..	Strong	3	112/ 70	146/ 78	144	144
	15	II	Weak; irregular	..	Strong	2	120/ 90	146/ 90	136	Irregular
	16	I	None	..	Strong	3	132/104	140/100	132	126
	17	I	Weak; irregular	..	Strong	5	120/ 68	112/ 76	148	140
	18	I	Weak	15	Strong	4	112/ 80	122/ 80	140	144
	19	I	None	..	Strong	3	114/ 76	132/ 82	128	132
	20	I	Moderate	5	Strong	2	110/ 80	110/ 70	140	124
	21	I	Moderate	4	Strong	3	140/ 68	144/ 72	140	120
	22	I	Weak	20	Strong	5	110/ 80	116/ 80	136	140
	23	I	Weak	15	Strong	4	126/ 90	130/ 90	140	140
Results obtained with Thymophysin	1	I	Weak	12	Strong	2	118/ 90	126/ 94	152	148
	2	I	Weak	9	Strong	2	106/ 72	118/ 74	132	120
	3	I	Weak	7	Strong	1½	112/ 76	132/ 86	136	132
	4	II	Weak	8	Strong	2½	118/ 72	126/ 84	132	144
	5	I	Weak	10	Strong	2	126/ 78	142/ 88	140	106
	6	I	Weak; irregular	..	Strong	2	130/ 80	138/ 96	148	Irreg.-20
	7	I	Moderate	5	Strong	2	112/ 70	140/ 96	148	148
	8	I	Weak	15	Strong	3	120/ 75	128/ 56	160	122
	9	III	Weak	10	Strong	1½	164/ 90	212/160	144	136
	10	IV	Weak	7	Strong	1½	124/ 80	146/102	136	Irregular
	11	I	Weak	10	Strong	2	105/ 78	120/ 88	140	136
	12	I	Weak; irregular	..	Strong	2	118/ 22	136/104	136	120
	13	I	Moderate	6	Strong	2	128/ 64	132/ 84	128	132
	14	III	Moderate	8	Strong	1½	138/ 68	148/ 74	148	Irregular
	15	II	Weak	8	Strong	2	130/ 90	146/ 98	152	144
	16	IV	Weak	10	Strong	4	112/ 80	130/100	160	Irregular
	17	III	Weak	5	Strong	2	114/ 76	160/110	160	116

* The figures for fetal heart rate after are the number of beats most frequently recorded for each contraction. In the bag of waters column, centimeters above or below spines.

The Thymophysin used in the study herewith reported had an activity of 60 per cent U. S. P.[4] (6 international units per cubic centimeter), was therefore much stronger than previous lots, and points to considerable variation and uncertainty in the activity from lot to lot. The identification number of the lot used was 3300 D and the label bore the statement "Not to be used after August, 1932."

Equal doses of Thymophysin and pituitary extract were given. It is realized that in these equal doses the Thymophysin contained 7.4 times as much pituitary extract as the weak pituitary solutions used in these experiments. Nevertheless, as will be shown, there was very little difference clinically in the results of these two preparations.

* From the Chicago Lying-In Hospital and Dispensary.
* Read before the Chicago Gynecological Society, Dec. 18, 1931.

1. Temesváry, Nikolaus: Zentralbl. f. Gynäk. **50**: 322 (Feb. 6) 1926.
2. Personal communication from Dr. David Klein of the Wilson Laboratories, Chicago.
3. Nelson, E. E.: Thymophysin Temesváry, J. A. M. A. **98**: 352 (Jan. 31) 1931.
4. Assay made by Dr. William A. Pearson.

In order to make a fair comparison of Thymophysin with the weak pituitary preparation, the drugs were used in two series of cases taken at random. The indications for the use of either drug were that the patient must be in the first stage of labor and that she have weak and infrequent pains or uterine atony. Because of these stipulations the number of cases is necessarily small. In each instance in which either drug was used, the following information was charted before the administration of the drug: parity, character of uterine pains, interval of pains, fetal heart rate, duration of labor, condition of bag of waters and if ruptured how long, amount of dilatation of the cervix, station of head and patient's blood pressure. After the drug was given, the following information was listed: dose of Thymophysin or pituitary extract, number of hypodermics and time each was given, blood pressure after each hypodermic, time of onset of the first uterine contraction following each injection, any change in character of the uterine contractions, frequency and duration of pains, whether or not the uterus relaxed completely between contractions, fetal heart rate after each injection and at frequent intervals between injections, time of delivery, condition of cervix after baby was born, kind of delivery, weight of baby, condition of mother and child, and any special observations.

Table 1 lists the foregoing information for the forty cases in which the labor continued until delivery. In a number of cases in which the preparations were used, the increased uterine contractions continued for one or two hours only. At the end of this time, pains ceased entirely and the patients were sent home. This occured nine times after the use of 25 per cent pituitary and six times following Thymophysin. Hence these drugs may be used, in cases in which patients have weak and infrequent pains, to distinguish between true and false labor. In every case in which uterine contractions ceased after the administration of the weak pituitary or of Thymophysin, they did so within two hours following the hypodermics and in no case did labor begin again in less than twenty-four hours. It would appear that both weak pituitary and Thymophysin are usually ineffective for the induction of labor, because most of the patients who were sent home in spite of the use of these drugs were at term, and three were beyond term.

The general impressions obtained from this study were as follows: The results in the two series seemed to be almost identical; that is, both Thymophysin and 25 per cent U. S. P. pituitary extract when used in 3 minim (0.2 cc.) doses in cases of uterine atony (not uterine exhaustion) in the first stage of real labor practically always stimulate uterine contractions and in many cases considerably shorten labor.

With both preparations there is a tendency to an increase in the patient's blood pressure, but this appears to be more striking after Thymophysin. Hence it is best to avoid the use of these drugs in patients who have marked hypertension. (Recently Schey [5] published a paper advocating the use of Thymophysin in cases of eclampsia because it shortens labor.)

The character of the dilatation of the cervix seems to differ with the two drugs. After the use of Thymophysin it was observed that the cervix usually becomes effaced before it dilates, whereas after the

Pituitary Extract and of Thymophysin *

In Labor, Hours and Minutes		Bag of Waters, Hours	Dilatation, Cm.	Station	Doses	Onset of Pains After Hypodermics, Minutes	Uterine Relaxation	Delivery	Baby's Weight, Gm.	Results
Before	After									
25	10:33	+	2	0	3	4	Yes	Spontaneous	2,795	Good
8:17	1:39	+	1	−3	1	12	No	Spontaneous	4,195	Excellent
14	1	+	2	−1	2	27	No	Precipitate	3,550	Cardiac failure; tetany
7:5	9:51	−7	2	−2	3	15	Yes	Spontaneous	3,280	Good
6	2:39	+	2	−2	3	12	Yes	Spontaneous	3,285	Excellent
8:25	10:38	+	2	−2	3	3	Yes	Spontaneous	3,560	Good
17:30	1:15	−48½	4	0	3	4	Yes	Spontaneous	2,110	Excellent
15:45	4:35	+	3	−2	2	5	Yes	Spontaneous	3,050	Excellent
7:45	3:47	+	2	+1	3	5	Yes	Spontaneous	3,250	Excellent
8:15	1:51	+	4	0	3	3	No	Low forceps	3,150	Tetany
6:20	0:7	−6:35	4	+1	3	4	Yes	Low forceps	3,290	Excellent
5	7:47	+	4	−1	2	½	Yes	Spontaneous	3,550	Excellent
9:30	4	+	2	0	3	6	Yes	Low forceps	3,370	Good
8:40	0:36	−4	1	−2	3	5	Yes	Spontaneous	3,550	Good
10	11:40	+	4	+1	2	3	No	Spontaneous	3,605	Tetany
5:35	8:15	−5:35	1	−1	3	6	Yes	Spontaneous	3,485	Fair
8:50	7:05	−5:20	5	−2	3	10	Yes	Spontaneous	2,800	Fair
6:25	17:05	+	2	+2	3	10	Yes	Low forceps	3,220	Fair
13:50	4:37	−3:50	2	0	3	7	Yes	High forceps	3,350	Poor
15	24:42	+	1	+1	2	30	Yes	Low forceps	3,205	Good
21:45	10:23	+	1	−1	3	4	Yes	Spontaneous	3,370	Poor
36:30	1:53	+	9	−1	1 (7u)	3	Yes	Spontaneous	3,420	Good
10:30	4:13	+	1	−1	3	3	No	Low forceps	3,515	Excellent
13:30	2:12	−16	4	0	2	2	Yes	Spontaneous	3,120	Excellent
12:12	1:40	+	3	0	1	2	Yes	Spontaneous	3,025	Excellent
17:20	2:12	−9	3	+1	1	3	Yes	Spontaneous	3,315	Excellent
16:45	3:45	+	4	+1	1	2	Yes	Spontaneous	3,275	Excellent
11:20	1:48	+	5	0	2	2	Yes	Spontaneous	3,460	Excellent
23:30	0:35	−8:35	4	0	1	2	No	Low forceps	2,190	Tetany
15:10	7:07	+	6	+2	3	2	Yes	Low forceps	2,685	Good
22	9:06	+	1.5	−3	3	3	Yes	Midforceps	3,580	Good
8:15	0:22	+	6	−1	1	5	At times	Spontaneous	2,950	Excellent
14:20	0:28	−1:48	6	−2	1	2	At times	Spontaneous	3,500	Excellent
43	20:22	+	3	0	1	3	No	Spontaneous	4,025	Fair
10:40	12:20	+	1.5	0	1	2½	Yes	Spontaneous	3,180	Fair
18	10:37	+	1.5	0	3	3	Yes	Spontaneous	3,600	Fair
14	0:10	+	8	0	1	2	No	Spontaneous	3,490	Tetany
8:30	1:44	+	1.5	−4	3	8	Yes	Spontaneous	3,510	Excellent
8:05	12:20	+	2	−2	1	3	No	Spontaneous	4,425	Tetany
7	5:11	+	2	−2	2	4	Yes	Spontaneous	3,925	Good

+ means membranes intact and — means membranes ruptured. In the station column, 0 means head at spines; plus or minus figures show

5. Schey, Géza: Zentralbl. f. Gynäk. **55**: 1285 (April 4) 1931.

pituitary extract, dilatation and effacement seem to occur simultaneously. The following is an illustrative case:

Mrs. E. R., a tertipara, had weak uterine contractions which recurred every five minutes for seven hours with no progress. The cervix at the end of this time was thick and dilated only 3 cm., the bag of waters was intact, the head was 2 cm. above the ischial spines, the fetal heart rate was 160 per minute, and the blood pressure was 114 systolic and 76 diastolic. Table 2 indicates what happened after one injection of 3 minims of Thymophysin given at 1:55 p. m. (The results after the use of 25 per cent U. S. P. pituitary were almost identical in character.)

Serious consequences for the mother were observed only once. A quintipara who had a mitral stenosis and insufficiency and a blood pressure of 166 systolic and 102 diastolic was given two doses of 3 minims each of the 25 per cent U. S. P. pituitary preparation. She was having weak and irregular contractions, and the cervix was dilated only 2 cm. in spite of fourteen hours of labor. The pains did not increase until twenty-seven minutes after the second dose of pituitary. They

TABLE 2.—*Course After One Injection of Thymophysin*

Uterine Contractions	Duration of Contraction	Blood Pressure		Fetal Heart Rate
		Systolic	Diastolic	
1:59 p. m.	30 seconds	130	80	160
2:01	30 seconds	136	80	152
2:03	45 seconds	130	86	
2:05	45 seconds	132	90	
2:07	40 seconds	132	100	144
2:10	45 seconds	140	100	
2:13	45 seconds	142	90	
2:15	45 seconds	160	112	144
2:17	40 seconds	140	92	
2:20	45 seconds	140	100	136
2:21	45 seconds	140	100	
2:24	45 seconds	144	102	136
2:26	50 seconds	140	100	
2:28	45 seconds	138	98	
2:31	45 seconds	138	90	136
2:33	45 seconds	140	96	140
2:35	50 seconds	138	96	
2:38	45 seconds	140	100	140
2:40	45 seconds	140	102	
2:42	45 seconds	140	98	144

This continued until the patient delivered spontaneously at 7:21 p. m.

then became tetanic in character, the baby was born thirty-three minutes later, and the patient exhibited all the signs of cardiac failure but she recovered. This patient should not have been given any pituitary preparation.

The only fetal death was that of an anencephalic monster, which died before delivery. After the administration of both preparations in a few cases the fetal heart tones became irregular. This was especially noticeable in the cases in which the uterus did not relax completely between pains or in which labor was almost precipitate. In three cases after the administration of pituitary extract and in three cases after the injection of Thymophysin, the contractions were tetanic in character and the fetal heart tones became very irregular. In two cases of each series, ether had to be given to bring about relaxation of the uterus. Two of the latter babies were delivered spontaneously and two by low forceps, and none showed evidence of injury.

Strong uterine contractions usually began within a few minutes after the injections. The pains usually lasted from thirty to fifty seconds in both series and recurred every two to seven minutes in the pituitary group and every one and a half to four minutes in the Thymophysin series. In a few instances, delivery was accomplished in an incredibly short period of time as, for example, within seven, ten, twenty-two and twenty-eight minutes after the hypodermics were given. No patient received more than three doses of three minims each of either drug, and in some instances only one dose sufficed. This was especially true of Thymophysin, for in many cases 3 minims was sufficient to produce the desired result, but this was to be expected because the Thymophysin used in my cases was 2.4 times as strong as the pituitary extract employed. The average amount of the pituitary extract was from 7 to 8 minims (0.4 to 0.5 cc.) and of the Thymophysin 5 minims (0.3 cc.). The hypodermics were repeated at fifteen minute intervals. Five times in the twenty-three cases of the pituitary series (21.7 per cent) there was incomplete relaxation of the uterus between pains, whereas this occurred six times in seventeen cases (35.3 per cent) in the Thymophysin group. This may also be explained by the greater strength of the pituitary in the Thymophysin. Delivery was spontaneous in all but ten cases in both series. Forceps were used in the latter cases. One patient had Dührssen's incisions in the cervix, but in the other patients the cervix, which was inspected in most instances, was not lacerated more than usual. Most of the babies were of average or above average weight.

Since 25 per cent U. S. P. pituitary extract has proved to be useful if properly used in indicated cases, it would appear advisable that commercial laboratories make two preparations of this substance. One should be the standard U. S. P. preparation as sold commercially at the present time, and its use should be limited to the third stage of labor because the 25 per cent preparation is usually not strong enough. (The uterus is apparently much less sensitive after the child is expelled.) The second preparation of pituitary that should be sold is the 25 per cent preparation for those who insist on using pituitary preparations during labor. The standard U. S. P. pituitary extract may be used in place of the 25 per cent U. S. P. extract provided the corresponding amount is administered. However, since the amount of the standard U. S. P. preparation should not exceed one-half minim (0.03 cc.) and since this amount is very difficult to measure accurately, and further since a greater amount is likely to cause too violent contractions, it is preferable to use the weaker extract, with which greater leeway in dosage is possible without harm. The weak pituitary extract accomplishes everything which the full strength preparation does in the first stage of labor, and it is distinctly less harmful (but not entirely harmless) before the baby is born. The labels on these ampules should be of different color so that no mistake may be made.

CONCLUSIONS

1. No preparation containing pituitary substance should ever be given as a routine or indiscriminately to shorten labor.

2. No pituitary preparation should be administered in the second stage of labor except on rare occasions.

3. Weak pituitary solution and Thymophysin are seldom effective for the induction of labor.

4. Both 25 per cent U. S. P. pituitary extract and Thymophysin shorten labor in some cases when administered during the first stage of labor.

5. If these substances are used during the first stage of labor they should be given only for a definite indication; namely, uterine atony or some urgent reason for shortening labor; and only small doses should be given; namely, 3 minims or less.

6. The 25 per cent U. S. P. pituitary extract and Thymophysin seem to give almost the same clinical results. The claims of Temesváry for the clinical value of thymus extract in combination with pituitary have not been borne out. My clinical studies are therefore in accordance with the laboratory observations of Nelson on this point.

7. The addition of thymus to pituitary extract does not add any factor of safety to the use of pituitary. The clinical use of pituitary extract depends not on the preparation used but on sound clinical judgment, time of administration, dosage and close observance of the behavior of the patient.

8. Occasionally, weak pituitary extract and Thymophysin even in small doses may do harm. Both have a tendency to increase the blood pressure; both may result in incomplete relaxation of the uterus between pains, and both may produce irregularities in the fetal heart rate which even if temporary may nevertheless result in injury to a baby.

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VITAMIN CONTENT OF MEDICINAL COD LIVER OILS AND RELATED PRODUCTS *

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The Food and Drug Administration of the U. S. Department of Agriculture is charged with the enforcement of the federal Food and Drugs Act. Until the organization of the administration's nutrition laboratory this year the Protein and Nutrition Division of the Bureau of Chemistry and Soils conducted the tests for vitamins on products coming within the administration's surveillance. This cooperative arrangement was in effect for about five years. The tests herein reported were all made on official samples collected by the Food and Drug Administration in connection with its duties in the enforcement of the federal Food and Drugs Act. This report summarizes the laboratory observations and is not intended to deal with such legal actions as were based on these observations. The methods and standards in the U. S. Pharmacopeia are given legal status under the aforementioned act. U. S. Pharmacopeia X provides specifications as to origin and chemical and physical properties of cod liver oil and, in addition, there is an optional test and standard for vitamin A which must be complied with for oils labeled "biologically tested."

When the work reported here was begun, certain inadequacies of the U. S. Pharmacopeia X vitamin assay for cod liver oils were recognized.[1] Certain facts that were not well known or appreciated at the time this method was formulated were utilized [2] to obtain more exact and accurate information concerning certain products tested, and the principles set forth in a publication from this laboratory [3] were adhered to. Although the therapeutic value of vitamin D is probably better established in medical practice than that of vitamin A, there is no standard or method of assay of this vitamin in U. S. Pharmacopeia X. In these studies the McCollum line test [4] as modified by Steenbock and Black [5] was used. In applying this test one cod liver oil was chosen as a standard, and other products were compared with that standard, litter mate rats being used. Subsequent tests have shown that this sample of cod liver oil was fully equal in vitamin D potency to any oil so far examined. As this method has not been recorded elsewhere, the details of the procedure are given here:

> The stock animals are fed a diet known to be adequate in all respects and rich in vitamin D. Females in the latter stages of pregnancy are segregated and fed a diet low in vitamin D. To obtain greater uniformity in size and growth, litters are reduced to six in number when the animals are 7 days old. When the young weigh approximately 60 to 65 Gm. they are fed Steenbock's ration 2965 for a period of from twenty-three to twenty-five days. They are then segregated, and 0.1 per cent of our standard cod liver oil is added to the ration of one half of the litter, and the desired level of the product under investigation is added to the ration of the remaining animals. The food consumption of the animals is recorded, and at the end of ten days they are killed and the bones are examined for healing of the rachitic metaphyses. If the degree of healing induced by the unknown product is not the same as that produced by the cod liver oil control, the test is repeated with the level of the unknown changed until the response is the same as that obtained on the control or the product is shown not to contain a significant quantity of vitamin D.

To simplify presentation of the data, products examined are grouped in seven different classes, and each class is considered separately.

COD LIVER OILS

Forty-two samples of cod liver oil have been examined. Of these, fifteen were samples of imports taken at the port of entry. Practically all the remaining oils were of different commercial brands. Some oils contained fully six times as much vitamin A as others. Five of the oils were shown by chemical and physical tests to be adulterated, apparently with other fish liver oils. None of the adulterated oils were low in vitamin A, but they were all low in vitamin D, ranging in potency from one half to one third of that of our standard oil. Of the remaining thirty-seven oils, only two showed a variation of 25 per cent in vitamin D potency from our standard. No pure cod liver oil tested to date has definitely exceeded the vitamin D potency of this standard; in fact, the two oils that were low in vitamin D were the only ones that showed a readily detectable variation from the standard.

TABLETS

Twenty-nine samples of cod liver oil tablets, representing seventeen different brands, were examined for their vitamin potency. Practically all the tablets examined in the early part of this work were devoid of the well recognized therapeutic principles of cod liver

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* From the Protein and Nutrition Division, Bureau of Chemistry and Soils, U. S. Department of Agriculture.

1. Steenbock, Harry; and Nelson, E. M.: Fat-Soluble Vitamin XIII: Light in Its Relation to Ophthalmia and Growth, J. Biol. Chem. **56**: 355-373 (June) 1923. Steenbock, Harry; Nelson, M. T., and Black, A.: Fat-Soluble Vitamins XX: A Modified Technic for the Determination of Vitamin A, ibid. **62**: 275-286 (Nov.) 1924.

2. Sherman, H. C., and Smith, S. L.: The Vitamins, New York, Chemical Catalog Company, 1931, p. 259. Hopkins, F. G., and Chick, Harriette: Estimation of Vitamin A in Cod Liver Oil, Lancet **1**: 148-150 (Jan. 21) 1928. Clare, Joan L. L., and Soames, Katherine M.: The Relative Content of the Fat-Soluble Vitamins A and D in a Series of Cod Liver Oils, ibid. **1**: 150-152 (Jan. 21) 1931.

3. Nelson, E. M., and Jones, D. B.: Observations Bearing on the Determination of Vitamin A, J. Biol. Chem. **80**: 215-226 (Nov.) 1928.

4. McCollum, E. V.; Simmonds, Nina; Shipley, P. G., and Park, E. A.: Delicate Biological Test for Calcium-Depositing Substances, Proc. Soc. Exper. Biol. & Med. **19**: 123, 1921-1922.

5. Steenbock, Harry; and Black, A.: Fat-Soluble Vitamins XVII: The Induction of Growth-Promoting and Calcifying Properties in a Ration by Exposure to Ultraviolet Light, J. Biol. Chem. **61**: 405-422 (Sept.) 1924.

oil. As this became apparent, most of our tests were confined to vitamin D, since this vitamin was considered to be more stable than vitamin A under the conditions to which the concentrate was subjected in the process of making the tablets. Reliable tests for the presence of vitamin D can also be made more rapidly and conveniently than tests for vitamin A. Therefore, most of the vitamin A tests have been made on products previously shown to contain vitamin D. Of the seventeen brands of tablets tested, only two were found to contain therapeutic quantities of vitamins A and D in the doses prescribed. However, this report does not cover tablets which have come on the market recently.

CAPSULES

Under the heading "capsules" is grouped a class of preparations enclosed in gelatin capsules of various shapes and sizes which are alleged to contain concentrates of cod liver oil, while some contain additional material for which therapeutic properties may or may not be claimed. Of seven brands of capsules tested, two were found to contain vitamins A and D in therapeutic quantities. The others did not contain vitamin A but contained small but not significant quantities of vitamin D.

HYDRO-ALCOHOLIC PREPARATIONS

Hydro-alcoholic preparations, alleged to contain cod liver oil concentrates or extracts and usually recommended by the manufacturers as "tonics," contain as much as 20 per cent of alcohol, hypophosphites, various plant extracts, aromatic compounds and the like. Of twenty-eight samples, representing twenty-three different brands, not one sample was found to contain the vitamins of cod liver oil in significant quantities.

EMULSIONS

Of five emulsions tested, all except one contained vitamins A and D in the amount expected from the proportion of cod liver oil alleged to be used in the manufacture of the product. One emulsion contained less than one-half as much vitamin A as would be expected from its formula.

CONCENTRATES OR EXTRACTS

Seven concentrates, each representing a different brand, have been tested for their vitamin potency. Of this number, four were found to contain vitamins A and D in such quantities that they could legitimately be classed as concentrates. Three preparations were found to be practically or wholly devoid of vitamin A and did not show more than one-tenth the vitamin D potency of cod liver oil.

COMMENT

The cod liver oils examined were found to be uniform in their vitamin D potency. Several publications [6] would lead one to believe that there is considerable variation in the vitamin D potency of cod liver oils for medicinal use. However, the other investigations reported on the vitamin D content of cod liver oils have been made primarily on specially selected oils, which would tend to bring out maximum differences in vitamin potency. Approximately 90 per cent of the cod liver oil used in this country is imported,[7] and each shipment probably represents oil from many catches of the fish as well as renderings from many plants. The oil production in this country is largely controlled by a few manufacturers, who find it advantageous to handle oil in large quantities. Therefore, the extent to which oils are blended both in this country and abroad tends to produce a uniform product. Furthermore, the testing of oils for their vitamin potency both in Norway and in this country tends to eliminate low grade oils for medicinal use.

Cod liver oils are much less uniform with respect to their vitamin A potency. The factors already mentioned which tend to make medicinal cod liver oils uniform in vitamin D potency should have the same influence on vitamin A. However, vitamin A is apparently much less stable under the conditions to which the oil is subjected before it reaches the consumer, and this instability is probably largely responsible for the variations found in the oils tested. Changes in vitamin A potency in cod liver oils that have been tested in this laboratory lend further support to this view. Vitamin A potency could not be correlated with origin of the oil, and oils found to be adulterated with other fish liver oils were not low in vitamin A. Most of the oils low in vitamin A potency were distinctly rancid or off color, or both.

When these investigations were started the manufacturers of cod liver oil tablets apparently did not appreciate fully to what extent concentrates might lose their vitamin potency when made into tablets unless special precautions were observed. Also some manufacturers of tablets were, perhaps unwittingly, using as a source of vitamins preparations that were very low in vitamin content. Cod liver oil tablets and capsules have been prepared which retained satisfactory vitamin potency for a considerable length of time. Further improvements in this field may be expected.

The reason why the liquid so-called tonic preparations tested were devoid of significant quantities of the vitamins of cod liver oil is not clear. These preparations are usually very complex in composition and it is possible that some of the ingredients may be deleterious to the vitamins, but, as the composition of these products varies greatly, the vitamins should not be uniformly absent if they were present in the preparation at the time of manufacture.

Whether the vitamin content of cod liver oil is impaired by the process of emulsification has long been a moot question. These investigations show that the vitamin content of the oils used in some emulsions is not reduced to an extent that is detectable. The low vitamin A content of one emulsion may have been due to a poor quality of oil used in making the emulsion or to subsequent deterioration.

The cod liver oil concentrates reported herein are not as a rule offered for sale to the medical profession or the general public but are sold primarily by the manufacturer to be used in making tablets, liquid preparations and the like. Several manufacturers of cod liver oil tablets were found to be using the same worthless preparation as the source of cod liver oil vitamins in their tablets. By establishing the character of these concentrates it has been possible in some cases to show that the material used as a source of vitamins is unreliable.

Numerous other products, which do not logically fall into any of the classes discussed, are alleged to contain vitamins or therapeutic properties of cod liver oil. Of ten such preparations examined, only one was

6. Adams, Georgian; and McCollum, E. V.: A Method for the Biological Assay of Cod Liver Oil, J. Biol. Chem. **78**: 495-524 (July) 1928. Hess, A. F.; Bills, C. E., and Honeywell, Edna M.: Antirachitic Potency in Relation to Volume of Oil in the Liver of the Cod, J. A. M. A. **92**: 226-228 (Jan. 19) 1929. Drummond, J. C., and Hilditch, T. P.: The Relative Values of Cod Liver Oils from Various Sources, London, His Majesty's Stat. Off., December, 1930.

7. Fiedler, R. H.: Fishery Industries of the United States, 1929, U. S. Government Printing Office, Washington, D. C.

found to contain a significant quantity of the vitamins of cod liver oil. This is an indication of the tendency to exploit the therapeutic properties of cod liver oil without first establishing the value of the product as purchased by the consumer.

Action has been taken by the Food and Drug Administration on all products referred to in this publication which did not contain in the prescribed dose vitamins A and D in quantities comparable to that carried in a dose of good grade cod liver oil. A number of notices of judgment [8] have been published by the Secretary of Agriculture concerning products alleged to contain the vitamins or therapeutic properties of cod liver oil. Many manufacturers discontinued the production of their preparations when attention was called to the fact that reference to cod liver oil in the label was unwarranted. Other manufacturers have revised the label to conform with the requirements of the federal Food and Drugs Act.

SUMMARY

Vitamin assays of 128 commercial medicinal cod liver oil products were made. The products include forty-two cod liver oils, twenty-nine tablets, seven capsules, twenty-eight liquid preparations, seven concentrates, five emulsions and ten miscellaneous products.

LOWER FAT DIET IN DIABETES

JOSEPH H. BARACH, M.D.
PITTSBURGH

The question of low or high fat diet and of low or high carbohydrate diet in the treatment of diabetes is not yet settled in the minds of the majority of men who treat diabetes. On this question it may hardly be said that there is a "safe middle ground." Since either view is the opposite of the other, one ought to make certain about which mode of treatment is the better of the two. Recent literature,[1] however, indicates a positive shift in the direction which some physicians, who believe in the lower fat diet, have been advocating.[2]

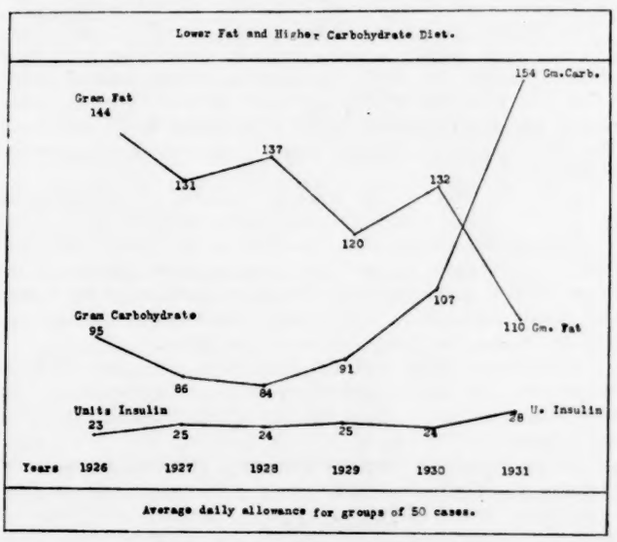
The accompanying chart covers an analysis of the course of treatment in 150 selected cases. These were chosen out of a large group because they were of the satisfactory type of patients who follow their diets carefully, who check the urine and have tests of the blood sugar done regularly and who have been under continued medical supervision since the beginning of their treatment.

The chart is based on the average carbohydrate allowance for groups of fifty cases in the years 1926 to 1931 inclusive. The figures for the fat and for insulin dosage were obtained in the same way. The protein ration is not given in the chart. Up to 1929 it was my practice to allow 1 Gm. of protein per kilogram for men and women. Since that time I have found it better to allow 1 Gm. for men and 0.75 Gm. for women. Women do not require more than that and that larger portions of protein foods are disagreeable to them.

It will be noted that in 1928 I [2] was already giving a diet which would have been considered by many to be relatively low in fats.

From 1928 to 1931 the average daily allowance of fat was reduced from 137 Gm. to 110 Gm., and at the same time, the carbohydrate allowance was increased from an average of 84 Gm. to 154 Gm. daily. This exchange is brought about gradually, by substituting 10 Gm. of carbohydrate for 5 Gm. of fat, once or twice a week, as the patient's condition warrants.

With higher carbohydrate rations patients are better satisfied and they have little desire to overstep their diet. Most of the time these patients have kept sugarnormal (absence of urine sugar and normal blood sugar). Daily experience points to the conclusion that the diabetic patient tolerates carbohydrate better than fat and that, gram for gram, carbohydrate throws less strain on the metabolism of the diabetic patient. The danger of coma is lessened. I have had only one treated diabetic patient who developed coma within two years. That was a girl, aged 12 years, who threw all treatment to the winds during her vacation period; fortunately, she responded promptly to treatment.



Course of treatment in 150 cases.

The chart also shows that while the average allowance of carbohydrate has been increased 70 Gm. daily, I have had to increase the insulin only 3 units a day. This is evidence of the fact that insulin applies to the total metabolism or that 1 Gm. of fat creates the need for as much insulin as 2 Gm. of carbohydrate. This is important. I have previously called attention to the fact that some of the "refractory" diabetic patients do better with the lower fat diet. Patients with persistently high blood sugars are seen less frequently with this form of treatment, and the refractory diabetic becomes an ordinary diabetic patient. Fat is more dangerous to the diabetic patient than carbohydrate.

In an individual case the carbohydrate was increased from 95 to 200 Gm. daily, from April, 1930, to July, 1931. The protein was increased from 80 to 90 Gm. and fat reduced from 170 to 115 Gm. daily. At the beginning of treatment this patient was taking 42 units of insulin daily (25-0-17); at present he is taking 40 units (22-0-18) daily. He takes 105 Gm. more of carbohydrate, 10 Gm. more of protein with 2 units less of insulin, daily. This has been accomplished by lowering the daily fat ration 55 Gm. In him and in others I have repeatedly seen an increase of fat followed by glycosuria. At other times he is sugarnormal (absence of glycosuria with normal blood sugar).

8. Section 4 of the Food and Drugs Act provides that, after judgment of the court, notice shall be given by publication. Such notices are published from time to time as notices of judgment, including the name of the product, manufacturer or shipper, the findings of the examiner or analyst, the violation alleged, plea, and decision of the court.

1. Joslin, E. P.: Appraisal of Present Treatment of Diabetes, J. A. M. A. **97**: 597 (Aug. 29) 1931.

2. Barach, J. H.: Lower Fat Diet in Diabetes, Ann. Int. Med. **4**: 593-600 (Dec.) 1930.

COMMENT

A group of 150 diabetic patients treated with lower fat and higher carbohydrate diet required no more insulin in most cases and less insulin in many. The low fat diet is more satisfactory to the patient and, so far as can be judged at this time, complications of the disease have been reduced.

Medical Arts Building.

Clinical Notes, Suggestions and New Instruments

EYE INJURIES FROM FOURTH OF JULY TORPEDOES *

CARL H. REUTER, M.D., NEW YORK

The danger of eye injury from the use of the Fourth of July torpedo is illustrated by the records of eight cases treated at Bellevue Hospital in 1930 and 1931. The history showed that in each instance the eye was struck by small pieces of flying gravel propelled by the explosion of the torpedo.

The torpedo in question consists of a small bit of concussion explosive, usually a percussion cap, surrounded by a mass of tiny pebbles, the whole being wrapped in a wad of paper. When this is hurled against any hard surface a loud explosion results and the contained gravel is scattered in all directions. The great possibility of eye injury from this flying material is obvious.

The eye injuries in our patients consisted of lacerations of the cornea and conjunctiva, burns and penetrating wounds, or a combination of these. The direction of the pellets (the torpedo being thrown at the feet) predisposes to injury to the upper portion of the eye; i. e., the upper portions of the cornea and bulbar conjunctiva. The projecting infra-orbital margins tend to protect the lower portion of the globe.

The histories show that the bystanders are more likely to be injured than is the individual hurling the torpedo. This obviously is due to the direction of the torpedo, which is hurled away from the thrower.

The accompanying photographs were obtained through the courtesy of Dr. W. L. Hughes.

REPORT OF CASES

CASE 1.—P. G., aged 20, presented himself because of injury to his right eye caused by a torpedo, which exploded at his feet. Examination showed a shallow excoriation of the cornea about the upper limbus and a small subconjunctival hemorrhage superiorly. The skin surface of the upper lid was also slightly excoriated and burned. The conjunctival sac was irrigated, 20 per cent mild silver protein was instilled and a patch was applied. The patient was seen again after twenty-four hours, at which time the cornea did not stain with fluorescein. The patch was removed and hot compresses were prescribed. At the end of four days the eye was entirely normal.

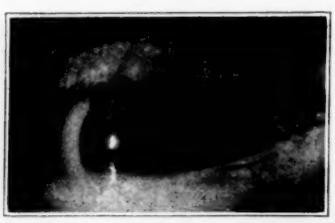


Fig. 1 (case 4).—Cyclodialysis produced by torpedo injury.

CASE 2.—L. A., aged 18, stated that his right eye was injured by flying stones from a torpedo which had been thrown on the sidewalk directly in front of him. Examination revealed a slight conjunctival laceration just above the cornea. The adjacent bulbar conjunctiva was markedly hyperemic. No foreign bodies were found. Twenty per cent mild silver protein was instilled and a patch was applied. The patient did not return for further observation.

CASE 3.—D. K., aged 13, had been struck in the right eye by pebbles from a torpedo that was thrown at his feet by a playmate. Examination showed a small superficial abrasion in the upper portion of the cornea. No foreign bodies were found. Twenty per cent mild silver protein was instilled and a patch applied. Healing was complete in twenty-four hours.

CASE 4.—M. M., aged 11 years, was injured in the left eye following the explosion of a torpedo on the sidewalk about 4 feet in front of him. Examination showed irregular abrasions and excoriations involving the upper portion of the cornea and the adjacent conjunctiva. The anterior chamber was filled with blood and the conjunctival injuries bled considerably. The tension seemed low to the fingers. The eye was irrigated with boric acid solution, and atropine was instilled. A patch was applied.

The patient was admitted to Bellevue Hospital. The hyphemia resorbed after seven days and an iridodialysis involving about 4 mm. of the upper portion of the iris became evident. The roentgenograms were negative for foreign bodies.

Two weeks after the injury Dr. Samuel Cast reattached the iris through a keratome incision, under cocaine anesthesia. The patient was discharged with an excellent cosmetic result and with vision of 20/20.

Fig. 2 (case 6).—Posterior synechiae from torpedo injury.

CASE 5.—F. L., aged 45, was sitting in his parked automobile when some boys who were passing threw torpedoes on the sidewalk nearby. He was struck in the right eye and came immediately to the hospital. The upper portion of the cornea was excoriated and the upper lid appeared contused and burned. Several small foreign bodies were removed from the cornea and conjunctiva. Atropine and 20 per cent mild silver protein were instilled, and the eye was patched for twenty-four hours, after which hot compresses were used. The eye was apparently normal after four days.

CASE 6.—J. G., aged 33, stated that he had been injured in the left eye by small stones from an exploding torpedo. It had been thrown high in the air and struck the pavement about 6 feet in front of him.

Examination showed an area of subconjunctival hemorrhage bordering on the limbus and extending upward and temporally. The conjunctiva was irrigated and hot compresses were prescribed. A roentgenogram was negative for foreign bodies.

Forty-eight hours later the hemorrhage was partly resorbed. However, a traumatic iritis of moderate severity developed, which in spite of atropine, resulted in the formation of several posterior synechiae. After five weeks' treatment with atropine and hot compresses the eye became normal except for the posterior synechiae. The vision at the time of discharge was 20/20.

CASE 7.—J. M., aged 14, was struck in the right eye by a pebble from a torpedo thrown by a playmate. There was severe pain and immediate loss of vision. He came at once to Bellevue, where he was admitted.

Examination showed a small laceration of the margin of the upper lid at about its middle. The upper portion of the cornea was deeply excoriated and the lower third of the anterior chamber was filled with hemorrhage.

The conjunctival sac was flushed with boric acid solution, 1 per cent atropine was instilled, and a patch was applied. The patient was given 1,500 units of tetanus antitoxin. A roentgenogram was negative for intra-ocular foreign body.

The eye was kept atropinized and patched for one week, the hyphemia gradually resorbing. The patient was discharged, July 10, with the anterior chamber clear.

CASE 8.—J. D. P., aged 12, was struck in the right eye, July 4, by pebbles from a torpedo. He was seen within half an hour by Dr. Weeks. Examination showed excoriations of the upper lid and central abrasions of the cornea. There was considerable blood in the anterior chamber. Light projection fields were normal. The eye was atropinized, corrosive mercuric chloride ointment, 1:5,000, was instilled between the eyelids and a patch applied. The cornea was healed by July 6, after which

* From the Ophthalmological Service of Bellevue Hospital.

hot compresses were prescribed. There was gradual resorption of the hyphemia, and when a fundus examination was possible a commotio retinae was found; vision was 20/40. On further observation, the eye returned to a normal state with vision of 20/20.

COMMENT

Eight instances of eye injuries are cited following the use of torpedoes, several of which resulted in permanent damage to the eyes.

In none of these cases was the accident attributable to carelessness or to the use of the torpedoes in a manner other than that for which they were intended. The obvious hazard which attends the use of such torpedoes, particularly the danger to innocent bystanders, demands that their sale be prevented.

67 Hudson Street.

NITROUS OXIDE-OXYGEN-ETHER EXPLOSION

CARL R. STEINKE, M.D., AKRON, OHIO

The study of hazards of anesthesia, explosions and dangers inherent in practice in the operating room has been given much serious attention, particularly in recent years.

Since an explosive agent and a source of ignition are the two essentials necessary for an explosion, the primary cause of explosions can be summarized in a general way, under the following headings:

1. The careless and unwise use of electrical apparatus which produces open sparks, such as electrosurgical units, cautery, diathermy, coagulation and fulguration units and radiographic or x-ray equipment of the open or unprotected type, electric motors, and the like.

2. Static electricity and the danger that accompanies the use of ether with nitrous oxide and oxygen in the rubber rebreathing bag type of equipment. Gases within the anesthesia machine may become electrified by friction caused within the valves when expanding from a high to a low pressure. The rubber bags associated with the anesthesia machine may become electrified by the normal expansion and contraction due to the breathing of the patient.

3. Lack of humidity. It is an established fact that when the atmosphere is sufficiently humid, all objects become coated with a surface film of moisture. This moisture film is partially conducting for static charges, and they leak off to the ground. When the humidity is sufficiently high it is impossible to electrify objects by friction because the charges leak off as rapidly as they are formed.

The consensus of writers on the subject [1] places the relative humidity for fire prevention at 54 per cent. The majority of fires in operating rooms, as recorded, have occurred during cold weather when the methods of heating greatly cut down the humidity levels.

Practically all explosions during the use of ethylene gas for anesthesia have received much publicity. Explosions during the use of nitrous oxide gas anesthesia generally are not published, much to the discredit of ethylene. It is with these facts in mind, and to support Dr. Arthur Dean Bevan's [2] article that I report the following case:

Nov. 11, 1926, a boy, aged 13 years, was brought to the x-ray room for the reduction of a fractured femur under the fluoroscope. He was given nitrous oxide, oxygen and ether anesthesia. Within five minutes an explosion occurred which shattered the tube, mask and cushion. The patient did not appear seriously injured, and no injury was done to the machine itself.

Shortly after returning to his room the patient vomited a large amount of blood and complained of severe headache. Hematemesis occurred again, eight hours later, to a lesser degree. The following day the patient complained of some headache and vertigo. Examination of the chest and lungs revealed nothing abnormal. Close observation of this patient through the remainder of his hospitalization revealed no further apparent ill effects.

This particular explosion might have been due to sparks resulting from discharges of static electricity developed within the apparatus itself, in a room where the humidity was reduced. However, it is believed that there was a small leak in the breathing tube leading from the patient to the machine and that the explosion was an ether-oxygen explosion caused by sparks from the table of the x-ray machine igniting the escaping gas through the leak in the tube.

The advisibility of periodic inspection of all electrical equipment as well as inspection of the anesthetic machine cannot be overemphasized. The risk, however, has been greatly minimized with the progress made in electrical equipment during the past few years.

Second National Building.

1. Hoover, P. L., and Cutler, E. C.: Eliminating the Explosion Hazard in Operating Rooms, Mod. Hosp. **35**: 49 (July) 1930. Doane, J. C.: The Advantages and Dangers of Anesthetic, ibid. **35**: 107 (Oct.) 1930.

2. Bevan, A. D.: The Present Status of the Anesthesia Problem, J. A. M. A. **97**: 1530 (Nov. 21) 1931.

Committee on Foods

THE FOLLOWING PRODUCTS HAVE BEEN ACCEPTED BY THE COMMITTEE ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION FOLLOWING ANY NECESSARY CORRECTIONS OF THE LABELS AND ADVERTISING TO CONFORM TO THE RULES AND REGULATIONS. THESE PRODUCTS ARE APPROVED FOR ADVERTISING IN THE PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION, AND FOR GENERAL PROMULGATION TO THE PUBLIC. THEY WILL BE INCLUDED IN THE BOOK OF ACCEPTED FOODS TO BE PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION.

RAYMOND HERTWIG, Secretary.

POWDERED LACTIC ACID MILK (HALF SKIM) ACIDULATED WITH U. S. P. LACTIC ACID

Manufacturer.—Mead Johnson and Company, Evansville, Ind.

Description.—Powdered spray dried partially defatted milk (1.5 fat content) containing added lactic acid; packed in an atmosphere of nitrogen in hermetically sealed tins.

Manufacture.—Milk from tuberculin tested cows collected under carefully supervised conditions is used; it is tested for bacteria, fat, odor, acidity and sediment and stored in glass-enameled tanks at 10 C. The fat content is adjusted to 1.5 per cent. The modified milk is treated with U. S. P. lactic acid to produce an acidity, as lactic acid, of 0.45 per cent, is conveyed to a closed tank in which the air is exhausted to a low pressure, is heated to 110 C. for one and one-half minutes by steam under pressure (Grindrod process), is cooled, homogenized by being forced under high pressure through small apertures, and is sprayed under high pressure into a current of cleaned, washed, heated air in a drying chamber. The collected milk solids are packed in an atmosphere of nitrogen in hermetically sealed tins.

Analysis (submitted by manufacturer).—

	per cent
Moisture	1.5
Ash	6.8
Fat (Mojonnier & Troy, Technical Control of Dairy Products, page 113)	11.6
Protein (N × 6.38)	31.9
Lactose (by difference)	44.8
Titratable acidity as lactic acid	3.4
Calcium (Ca)	1.1
Phosphorus (P)	0.87
Magnesium (Mg)	0.11
Sodium (Na)	0.56
Potassium (K)	1.50
Sulphur (S)	0.09
Chlorine (Cl)	0.89
Iron (Fe)	0.002
Copper (Cu)	0.0005

Composition of normal dilution, 1 ounce of powder to 7 ounces of water

	per cent
Ash	0.9
Fat	1.5
Protein (N × 6.38)	4.0
Lactose	5.6
Titratable acidity as lactic acid	0.4
ph	4.5

Calories.—4.3 per gram; 122 per ounce.

Vitamins.—The vitamins A and B (complex) remain practically unchanged and vitamin C is only slightly affected; therefore the vitamin values of a 1.5 fat milk are practically retained.

Micro-Organisms.—The manufacturer guarantees the absence of pathogenic organisms.

Claims of Manufacturer.—The product is recommended for infant feeding in accordance with a physician's instructions.

FAIRMONT'S BETTER CREAM CHEESE

Manufacturer.—The Fairmont Creamery Company, New York.

Description.—A cream cheese prepared from cream (18 per cent milk fat) mildly seasoned with salt, and wrapped in tin foil.

Manufacture.—Cream (18 per cent milk fat) is pasteurized at a temperature above 71 C. for one-half hour, cooled, homogenized, cooled to 21 C. and inoculated with a culture of Bacillus lacticus. The batch is held at 21 C. for several hours, salted, drawn into cloth bags, drained for one or two days to reduce the whey content, and packed by machine in loaf form in tin foil.

Analysis (submitted by manufacturer).—

	per cent
Moisture*	45 –50
Ash	1.0
Salt	0.5
Fat (Mojonnier method)*	40 –45
Protein (N × 6.38)	4.5– 5.5
Carbohydrates (by difference)	3.0
Titratable acidity as lactic acid	0.3– 0.4
Calcium (Ca)	0.04

* Mojonnier and Troy, "The Technical Control of Dairy Products," pp. 110-127.

Calories.—4.2 per gram; 119 per ounce.

Vitamins.—A rich source of vitamin A, owing to the high content of milk fat.

Claims of Manufacturer.—The cheese is suitable for all the table and cooking uses of cheese and is a valuable vitamin A food. It is made from cream.

ZIM'S BETTER BREADS—ALL O'THE WHEAT LOAF

Manufacturer.—The Zim Bread Company, Colorado Springs, Colo.

Description.—A whole wheat bread made by the straight dough method.

Manufacture.—The dough ingredients, whole wheat flour of northwest wheat, water, yeast, salt, sucrose, lard and refiner's syrup, are mixed in a high speed mixer. The dough is fermented for two hours, is molded into loaf form, panned, baked for from forty-five to sixty minutes, cooled, and wrapped in waxpaper. The factory, equipment and storage rooms for the materials used are kept in strictly sanitary condition.

Analysis (submitted by manufacturer).—

	per cent
Moisture (entire loaf)	36.6
Ash	2.4
Fat	4.2
Protein (N × 6.25)	10.8
Crude fiber	1.7
Carbohydrates other than crude fiber (by difference)	44.3

Calories.—2.6 per gram; 74 per ounce.

Claims of Manufacturer.—A bread of good quality.

WHITE STAR BRAND CALIFORNIA FANCY TUNA FISH

(Chicken of the Sea)

(Packed in high grade salad oil made from cottonseed)

CHICKEN OF THE SEA BRAND FANCY TUNA

(Packed in salad oil made from cottonseed)

Packers.—Van Camp Sea Food Company, Inc., Terminal Island, Calif., and White Star Canning Company, Los Angeles, division of Van Camp Sea Food Company, Inc.

Description.—Canned light meat of tuna fish packed in cottonseed oil and seasoned with salt.

Canning.—Yellowfin tuna (Thunnus macropterus) harvested off the coast of California and Lower California is brought direct to the canning plant in refrigerated fishing boats, unloaded, and examined on the cleaning tables by the company's own fish experts and by inspectors of the state board of health. All unsound or bruised fish are rejected. Fish with the viscera removed are washed, placed in cooking baskets to drain and then placed in the cookers, where they are cooked with dry steam at 104 C. until well done, when they are removed and cooled. The skins, bones and dark meat are removed from the cooled, cooked fish; light pieces are placed on trays which pass through cutting machines. Pieces of proper length for packing are cut out and packed in cans with salt and cottonseed oil. The cans are sealed, retorted at 116 C. for sufficient time to assure satisfactory keeping qualities, cooled, labeled and boxed.

The plant is kept strictly sanitary and is under the supervision of the state board of health.

Analysis (submitted by manufacturer).—

	per cent
Moisture	53.7
Total solids	46.3
Ash	2.9
Sodium chloride	1.5
Ash (salt free)	1.4
Fat (ether extract)	18.3
Protein (N × 6.25)	25.4
Crude fiber	0.0
Iodine (von Fellenberg method, U. S. Bureau of Fisheries, Document 967), 0.3 part per million	

Calories.—2.7 per gram; 77 per ounce.

Vitamins.—Contains vitamins A and D.

Claims of Manufacturer.—Light meat of tuna fish for table use; a good food source of iodine; contains vitamins A and D.

SPERRY DRIFTED SNOW FLOUR

Manufacturer.—Sperry Flour Company, Associate Company of General Mills, Inc., Minneapolis.

Description.—A moderately "strong" patent flour for general baking purposes in the home.

Manufacture.—See this section for Gold Medal "Kitchen-Tested" Flour (THE JOURNAL, Oct. 3, 1931, p. 1002).

Analysis (submitted by manufacturer).—

	per cent
Moisture	13.0 –14.5
Ash	0.36– 0.40
Fat (ether extract)	0.8 – 1.2
Protein (N × 5.7)	10.3 –10.8
Crude fiber	0.3 – 0.5
Carbohydrates other than crude fiber (by difference)	75.2 –72.6

Calories.—3.5 per gram; 99 per ounce.

Claims of Manufacturer.—An "all purpose" flour for use in home baking; standardized in baking characteristics for uniform performance under normal home baking conditions.

PENICK CRYSTAL WHITE SYRUP

(Corn and Cane Sugar Syrups)

Distributor.—Penick and Ford Sales Company, Inc., Cedar Rapids, Iowa.

Description.—A table syrup; corn syrup sweetened with sucrose.

Manufacture.—The corn syrup ingredient is made by the procedure described for Penick Golden Syrup (THE JOURNAL, April 2, 1932, p. 1159). The corn syrup and a much smaller quantity of sucrose syrup are mixed, heated and packed as described for Penick Golden Syrup.

Analysis (submitted by manufacturer).—

	per cent
Moisture	23.7
Ash	0.2
Fat (ether extract)	0.0
Protein (N × 6.25)	0.0
Reducing sugars as dextrose	29.9
Sucrose (copper reduction method)	8.6
Dextrins, by difference	37.6

No methods are available for accurately determining the composition of syrups of this nature; therefore the foregoing analysis is roughly approximate.

Calories.—3 per gram; 85 per ounce.

Claims of Manufacturer.—A syrup for cooking, baking and table use. It is suitable as a carbohydrate supplement for milk modification for infant feeding.

WILSON GELATINES (GRANULAR AND FLAKED)

Manufacturer and Distributor.—Wilson and Company, Chicago.

Description.—Granular or flaked plain, unsweetened, unflavored gelatin; graded on the basis of jelly strength.

Manufacture, Analysis, Micro-Organisms and Claims of Manufacturer.—See these sections for U-Cop-Co Gelatines (THE JOURNAL, Feb. 27, 1932, p. 737).

THE NEW ORLEANS SESSION

AMERICAN MEDICAL ASSOCIATION, EIGHTY-THIRD ANNUAL SESSION
NEW ORLEANS, LA., MAY 9-13, 1932

OFFICIAL CALL

TO THE OFFICERS, FELLOWS AND MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION

The eighty-third annual session of the American Medical Association will be held in New Orleans, May 9-13, 1932.

The House of Delegates will convene at 10 a. m., Monday, May 9. In the House the representation of the various constituent associations for 1932, 1933 and 1934 is as follows:

Alabama	3	New Hampshire	1
Arizona	1	New Jersey	4
Arkansas	2	New Mexico	1
California	7	New York	17
Colorado	2	North Carolina	3
Connecticut	2	North Dakota	1
Delaware	1	Ohio	7
District of Columbia	1	Oklahoma	3
Florida	2	Oregon	1
Georgia	3	Pennsylvania	10
Idaho	1	Rhode Island	1
Illinois	10	South Carolina	2
Indiana	4	South Dakota	1
Iowa	3	Tennessee	3
Kansas	2	Texas	5
Kentucky	3	Utah	1
Louisiana	2	Vermont	1
Maine	1	Virginia	3
Maryland	2	Washington	2
Massachusetts	6	West Virginia	2
Michigan	5	Wisconsin	3
Minnesota	3	Wyoming	1
Mississippi	2	Alaska	1
Missouri	5	Hawaii	1
Montana	1	Isthmian Canal Zone	1
Nebraska	2	Philippine Islands	1
Nevada	1	Porto Rico	1

The fifteen scientific sections of the American Medical Association, the Medical Corps of the Army, the Medical Corps of the Navy and the Public Health Service are entitled to one delegate each.

The Scientific Assembly of the Association will open with the general meeting to be held at 8 p. m., Tuesday, May 10. The sections will meet Wednesday, Thursday and Friday, May 11, 12 and 13, as follows:

CONVENING AT 9 A. M., THE SECTIONS ON

Surgery, General and Abdominal.
Ophthalmology.
Diseases of Children.
Nervous and Mental Diseases.
Pharmacology and Therapeutics.
Dermatology and Syphilology.
Gastro-Enterology and Proctology.
Radiology

CONVENING AT 2 P. M., THE SECTIONS ON

Practice of Medicine.
Obstetrics, Gynecology and Abdominal Surgery.
Laryngology, Otology and Rhinology.
Pathology and Physiology.
Preventive and Industrial Medicine and Public Health.
Urology.
Orthopedic Surgery.

The Registration Department will be open from 8:30 a. m. until 5:30 p. m., Monday, Tuesday, Wednesday and Thursday, May 9, 10, 11 and 12, and from 8:30 a. m. to 12 noon, Friday, May 13.

E. STARR JUDD, President.
F. C. WARNSHUIS, Speaker, House of Delegates.
OLIN WEST, Secretary.

MEMBERS OF THE HOUSE OF DELEGATES

A Preliminary Roster of the Legislative Body of the American Medical Association

The list of members of the House of Delegates for the session is incomplete, as a number of the state associations are yet to hold their meetings at which delegates will be elected. The following is a list of the holdover delegates and of the newly elected members who have been reported to the Secretary in time to be included:

STATE DELEGATES

ALABAMA
Seale Harris, Birmingham.
J. N. Baker, Montgomery.
R. S. Hill, Montgomery.

ARIZONA

ARKANSAS
William R. Bathurst, Little Rock.

CALIFORNIA
Junius B. Harris, Sacramento.
Percy T. Magan, Los Angeles.
Irving S. Ingber, San Francisco.
Dudley A. Smith, Oakland.
Fitch C. E. Mattison, Pasadena.
William Duffield, Los Angeles.
William R. Molony, Los Angeles.

COLORADO
John W. Amesse, Denver.
Crum Epler, Pueblo.

CONNECTICUT
Walter Ralph Steiner, Hartford.

DELAWARE
W. E. Bird, Wilmington.

DISTRICT OF COLUMBIA
Henry C. Macatee, Washington.

FLORIDA
Bundy Allen, Tampa.
Gaston H. Edwards, Orlando.

GEORGIA
William H. Myers, Savannah.
C. W. Roberts, Atlanta.
O. H. Weaver, Macon.

IDAHO
C. R. Scott, Twin Falls.

ILLINOIS
Charles J. Whalen, Chicago.
E. P. Sloan, Bloomington.
T. O. Freeman, Mattoon.
William Allen Pusey, Chicago.
G. Henry Mundt, Chicago.
R. L. Green, Peoria.
C. S. Skaggs, East St. Louis.
Mather Pfeiffenberger, Alton.
J. W. Van Derslice, Oak Park.
C. E. Humiston, Chicago.

INDIANA
Charles N. Combs, Terre Haute.
R. L. Sensenich, South Bend.
Albert E. Bulson, Fort Wayne.
F. S. Crockett, Lafayette.

IOWA
Fred Moore, Des Moines.

KANSAS
J. F. Hassig, Kansas City.
E. C. Duncan, Fredonia.

KENTUCKY
Irvin Abell, Louisville.
Virgil E. Simpson, Louisville.
Arthur T. McCormack, Louisville.

LOUISIANA
W. H. Seemann, New Orleans.
J. Q. Graves, Monroe.

MAINE
Bertram L. Bryant, Bangor.

MARYLAND
Randolph Winslow, Baltimore.
Alexius McGlannan, Baltimore.

MASSACHUSETTS
Halbert G. Stetson, Greenfield.
Charles E. Mongan, Somerville.
J. Forrest Burnham, Lawrence.
William H. Robey, Boston.
Edmond F. Cody, New Bedford.
Roger I. Lee, Boston.

MICHIGAN
C. S. Gorsline, Battle Creek.
J. D. Brook, Grandville.
H. A. Luce, Detroit.
Louis J. Hirschman, Detroit.
Carl F. Moll, Flint.

MINNESOTA
H. M. Johnson, Dawson.
W. F. Braasch, Rochester.
C. B. Wright, Minneapolis.

MISSISSIPPI
H. A. Gamble, Greenville.
Henry Boswell, Sanatorium.

MISSOURI
Jabez N. Jackson, Kansas City.
A. R. McComas, Sturgeon.
S. L. Baysinger, Rolla.
Emmett P. North, St. Louis.
E. J. Goodwin, St. Louis.

MONTANA
C. T. Pigot, Roundup.

NEBRASKA
R. W. Fouts, Omaha.
B. F. Bailey, Lincoln

NEVADA
Horace J. Brown, Reno.

NEW HAMPSHIRE
D. E. Sullivan, Concord.

NEW JERSEY
John F. Hagerty, Newark.
Walt P. Conaway, Atlantic City.
E. R. Mulford, Burlington.
B. S. Pollak, Secaucus.

NEW MEXICO

NEW YORK
Grant C. Madill, Ogdensburg.
John A. Card, Poughkeepsie.

Arthur W. Booth, Elmira.
Harry R. Trick, Buffalo.
John E. Jennings, Brooklyn.
James E. Sadlier, Poughkeepsie.
Frederick H. Flaherty, Syracuse.
Arthur J. Bedell, Albany.
Daniel S. Dougherty, New York.
Nathan B. Van Etten, New York.
George A. Leitner, Piermont.
James N. Vander Veer, Albany.
Orrin S. Wightman, New York.
William H. Ross, Brentwood.
Samuel J. Kopetzky, New York.
Frederic E. Sondern, New York.
Edward R. Cunniffe, New York.

NORTH CAROLINA

M. L. Stevens, Asheville.
J. K. Pepper, Winston-Salem.

NORTH DAKOTA

A. W. Skelsey, Fargo.

OHIO

John P. De Witt, Canton.
Charles E. Kiely, Cincinnati.
C. W. Waggoner, Toledo.
Wells Teachnor, Sr., Columbus.
Ben R. McClellan, Xenia.
E. R. Brush, Zanesville.
C. W. Stone, Cleveland.

OKLAHOMA

McLain Rogers, Clinton.
W. Albert Cook, Tulsa.
Horace Reed, Oklahoma City.

OREGON

PENNSYLVANIA

Walter F. Donaldson, Pittsburgh.
J. Norman Henry, Philadelphia.
Samuel P. Mengel, Wilkes-Barre.
Arthur C. Morgan, Philadelphia.
J. Newton Hunsberger, Norristown.
William H. Mayer, Pittsburgh.
Frank P. Lytle, Birdsboro.
Howard C. Frontz, Huntingdon.
Harry W. Mitchell, Warren.
J. Allen Jackson, Danville.

RHODE ISLAND

Roland Hammond, Providence.

SOUTH CAROLINA

Edgar A. Hines, Seneca.

SOUTH DAKOTA

John F. D. Cook, Langford.

TENNESSEE

E. G. Wood, Knoxville.
H. B. Everett, Memphis.

TEXAS

Holman Taylor, Fort Worth.
Felix P. Miller, El Paso.
J. W. Burns, Cuero.
A. A. Ross, Lockhart.
H. W. Cummings, Hearne.

UTAH

VERMONT

William G. Ricker, St. Johnsbury.

VIRGINIA

John W. Preston, Roanoke.
E. C. S. Taliaferro, Norfolk.
Southgate Leigh, Norfolk.

WASHINGTON

Frederick Epplen, Seattle.
John H. O'Shea, Spokane.

WEST VIRGINIA

James R. Bloss, Huntington.
R. H. Walker, Charleston.

WISCONSIN

J. Gurney Taylor, Milwaukee.
W. E. Bannen, La Crosse.
Joseph F. Smith, Wausau.

WYOMING

George P. Johnston, Cheyenne.

ALASKA

HAWAII

ISTHMIAN CANAL ZONE

PHILIPPINE ISLANDS

PORTO RICO

H. F. Carrosquillo, Utuado.

DELEGATES FROM GOVERNMENT SERVICES

United States Army, Henry B. McIntyre.
United States Navy, William Neil McDonell.
United States Public Health Service, L. R. Thompson.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE

James S. McLester, Birmingham, Ala.

SURGERY, GENERAL AND ABDOMINAL

J. Tate Mason, Seattle.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

Arthur H. Curtis, Chicago.

OPHTHALMOLOGY

Edward Stieren, Pittsburgh.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY

Burt R. Shurly, Detroit.

DISEASES OF CHILDREN

Isaac A. Abt, Chicago.

PHARMACOLOGY AND THERAPEUTICS

Cary Eggleston, New York.

PATHOLOGY AND PHYSIOLOGY

D. J. Davis, Chicago.

NERVOUS AND MENTAL DISEASES

T. B. Throckmorton, Des Moines, Iowa.

DERMATOLOGY AND SYPHILOLOGY

Frank W. Cregor, Indianapolis.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

S. H. Osborn, Hartford, Conn.

UROLOGY

Arthur L. Chute, Boston.

ORTHOPEDIC SURGERY

Archer O'Reilly, St. Louis.

GASTRO-ENTEROLOGY AND PROCTOLOGY

Martin E. Rehfuss, Philadelphia.

RADIOLOGY

G. E. Pfahler, Philadelphia.

OFFICERS OF THE AMERICAN MEDICAL ASSOCIATION, 1931-1932

PRESIDENT—E. Starr Judd, Rochester, Minn.

PRESIDENT-ELECT—E. H. Cary, Dallas, Texas.

VICE PRESIDENT—George C. Yeager, Philadelphia.

SECRETARY AND GENERAL MANAGER—Olin West, Chicago.

TREASURER—Austin A. Hayden, Chicago.

SPEAKER, HOUSE OF DELEGATES—F. C. Warnshuis, Grand Rapids, Mich.

VICE SPEAKER, HOUSE OF DELEGATES—Albert E. Bulson, Fort Wayne, Ind.

EDITOR AND GENERAL MANAGER EMERITUS—George H. Simmons, Chicago.

EDITOR—Morris Fishbein, Chicago.

BUSINESS MANAGER—Will C. Braun, Chicago.

BOARD OF TRUSTEES—Edward B. Heckel, Chairman, Pittsburgh, 1932; Rock Sleyster, Wauwatosa, Wis., 1932; J. H. Walsh, Secretary, Chicago, 1933; A. R. Mitchell, Lincoln, Neb., 1933; D. Chester Brown, Danbury, Conn., 1934; Allen H. Bunce, Atlanta, Ga., 1934; Joseph A. Pettit, Portland, Ore., 1935; J. H. J. Upham, Columbus, Ohio, 1935; Thomas S. Cullen, Baltimore, 1936.

JUDICIAL COUNCIL—Donald Macrae, Jr.,* Council Bluffs, Iowa, 1932; F. W. Cregor, Indianapolis, 1933; James B. Herrick, Chicago, 1934; George E. Follansbee, Chairman, Cleveland, 1935; W. F. Donaldson, Pittsburgh, 1936; Olin West, Secretary, ex officio, Chicago.

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS—R. L. Wilbur, Chairman, Washington, D. C., 1932; J. S. McLester, Birmingham, Ala., 1933; E. P. North, St. Louis, 1934; Reginald Fitz, Boston, 1935; M. W. Ireland, Washington, D. C., 1936; Charles E. Humiston, Chicago, 1937; Dean Lewis, Baltimore, 1938; W. D. Cutter, Chicago, Secretary.

COUNCIL ON SCIENTIFIC ASSEMBLY—Frank H. Lahey, Boston, 1932; Roger S. Morris, Cincinnati, 1933; Irvin Abell, Louisville, Ky., 1932; Frank Smithies, Chicago, 1935; John E. Lane, Chairman, New Haven, Conn., 1936, and ex officio the President-Elect, the Editor, and the Secretary of the Association.

COUNCIL ON PHARMACY AND CHEMISTRY (*Standing Committee of the Board of Trustees*)—R. A. Hatcher, New York, 1933; E. E. Irons, Chicago, 1933; H. N. Cole, Cleveland, 1933; S. Bayne-Jones, Rochester, N. Y., 1934; C. W. Edmunds, Ann Arbor, Mich., 1934; Eugene F. Du Bois, New York, 1934; Morris Fishbein, Chicago, 1935; G. W. McCoy, Washington, D. C., 1935; E. M. Bailey, New Haven, Conn., 1935; George H. Simmons, Chicago, 1935; L. G. Rowntree, Rochester, Minn., 1936; Torald Sollmann, Cleveland, 1936; L. B. Mendel, New Haven, Conn., 1936; Reid Hunt, Chairman, Boston, 1937; W. W. Palmer, New York, 1937; Alfred F. Hess, New York, 1937; W. A. Puckner, Secretary, Chicago.

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BUREAU OF LEGAL MEDICINE AND LEGISLATION—W. C. Woodward, Director, Chicago.

BUREAU OF HEALTH AND PUBLIC INSTRUCTION—W. W. Bauer, Director, Chicago.

BUREAU OF INVESTIGATION—Arthur J. Cramp, Director, Chicago.

BUREAU OF MEDICAL ECONOMICS—R. G. Leland, Director, Chicago.

CHEMICAL LABORATORY—Paul Nicholas Leech, Director, Chicago.

LIBRARY—Marjorie Hutchins, Librarian, Chicago.

* Deceased.

HEADQUARTERS OF NEW ORLEANS SESSION OF AMERICAN MEDICAL ASSOCIATION

NEW ORLEANS AS A MEDICAL AND HEALTH CENTER

For almost one hundred years, since the establishment in 1832 of the Charity Hospital and the opening in 1835 of the Medical College of Louisiana, which later became the Tulane University of Louisiana School of Medicine, the medical profession of New Orleans has contributed in large measure, both by research and by clinical application, to the health not only of New Orleans and Louisiana but of a vast surrounding territory.

Whenever new ideas in medical progress have appeared, the medical profession of New Orleans has either reflected that progress promptly or has taken a leading part in its elucidation. The whole modern idea of insect-borne disease comes from this locality. The first convincing demonstration on a large scale in America of the eradication of yellow fever by mosquito control was made in New Orleans. Some of the scientific researches and contributions of the medical profession of New Orleans have commanded loud acclaim and high esteem in every civilized country in the world. Important contributions have been made to our knowledge not only of diseases and conditions that commonly occur almost everywhere but also of those that occur especially in temperate and tropical climates, the so-called tropical diseases. The scientific medical literature in every modern language of the world is replete with references to and descriptions of important contributions from New Orleans and New Orleans physicians to our knowledge of such diseases as hookworm, malaria, beriberi, leprosy, dysentery, sprue, yellow fever and pellagra.

People in a vast southern territory turn to New Orleans for the services of many expert specialists in modern, well equipped hospitals and clinics. The hospital facilities in New Orleans are unequaled in the South. There is one bed to about 115 of the population of the city. There were more than 75,000 admissions to these institutions last year. This gives some idea of the thousands who are under the expert care of physicians in New Orleans hospitals, to say nothing of the much greater number treated in clinics, in physicians' offices and in the homes of the city. It should be borne in mind that this number includes patients not only from Louisiana and other Southern states especially but also others from all countries related to the United States by commercial, maritime or other business ties.

Just as health conditions vary with climate and locality, so certain types of maladies are prone to prevail in different parts of the world. Not only are the diseases that occur the world over seen in New Orleans, but as a center to which people from this large surrounding Southern territory turn for expert medical service and as a seaport through which flows an ever-increasing commerce with Central and South America and other tropical countries, this city is a center for the study and treatment of those disease conditions peculiar to warm countries, of which little first-hand information can be gained elsewhere in the United States. The Charity Hospital, the largest in the entire South and Southwest, constitutes, for such research and study, a clinical laboratory unequaled anywhere on the continent.

Students and physicians from every state in the Union and from many foreign countries come to New Orleans for medical training, both graduate and undergraduate.

Tulane School of Medicine has contributed largely to the medical knowledge and medical progress of this section of the country. More than 6,000 have been graduated in medicine from this school. Over 52 per cent of the practicing physicians in Louisiana and a large percentage of those in other nearby states are graduates of Tulane. The number of applications for admission has greatly increased during the past few years. These applications come from almost every state in the Union and from many foreign countries. While all qualified applicants from this immediate territory are accepted, many from distant states have to be turned away for lack of sufficient room and facilities.

The program of building and development of the Tulane School of Medicine that is already well under way will greatly increase the importance of New Orleans as a medical center, especially from the standpoint of medical education, research and the promotion of medical knowledge. The first unit of the building program, the new Josephine Hutchinson Memorial, has been erected at the corner of Tulane Avenue and LaSalle Street, just across LaSalle Street from the Charity Hospital. It provides facilities for the most modern care of a considerable number of clinic patients. It is nine stories high with a completely finished and utilized basement floor and cost, with equipment, $1,250,000, not counting the cost of the site. It is the largest teaching clinic building in America and will embody several advanced and unique features.

In addition to providing the most complete and most extensive facilities in this country for the best care of patients, combined with opportunities for the thorough study of disease by the staff

and students, the new Hutchinson Memorial building provides administrative offices for the medical college, all accommodations for the headquarters of the organized medical profession of the city and state, and a medical library large enough to fall within the group of the largest five in the United States. One feature of the library is the periodical reading room, where practically all the useful current medical periodicals of the world will be found.

Recently, the Medical Center building of the Louisiana State University was completed. This is domiciled in its own quarters on the grounds of the Charity Hospital and was built at a cost of $1,000,000. For the session 1931-1932, the center offers instruction in the first and third years of medicine, and fourth year instruction will be offered beginning with the 1932-1933 session. A fifth year of hospital residency will be required before the degree of Doctor of Medicine is awarded. Practical instruction in all the branches of medicine and surgery is being stressed, and particular attention is being given to tropical diseases, industrial surgery, and the diseases indigenous to the Southland. Preventive medicine is occupying a prominent place on the curriculum.

MEDICAL CENTER FOR THE NEW LOUISIANA STATE MEDICAL COLLEGE OF LOUISIANA STATE UNIVERSITY

Completed recently also was the new Marine Hospital, built by the federal government at a cost of $2,000,000. The hospital is the largest of its kind in the country, with 580 beds and a full time staff of forty-eight physicians and dentists.

Only a few weeks ago, the Flint-Goodridge Hospital was dedicated. The hospital, with ninety beds, is for the Negro population of New Orleans. The dearth of hospital beds and the small number of Negro physicians found in the South have been largely responsible for the amazing death rate among the Negroes. The dedication of the new building culminated a dream long cherished by those interested in Negro uplift because the new institution fills a need for improved Negro hospitalization and additional Negro physicians.

Prominent also among the sixteen hospitals in New Orleans is the Hotel Dieu, under the management of the Sisters of St. Vincent de Paul, opened originally in 1852; Touro Infirmary, established in 1854, and the Baptist Hospital, established in 1926. The French Hospital, founded in 1843, is of special interest since it was there that the grand dames and cavaliers of the old Creole families were treated. To this day, the menus passed from bed to bed are written in French and the language of Paris is spoken as often as is English.

But, with all of this rapid present and future increase in the advantages of New Orleans as a center for medical study and treatment of disease and for medical research, what of the health of New Orleans? Fifty and a hundred years ago this region was visited from time to time by devastating epidemics of yellow fever, which took its toll of thousands and thousands of lives and created the greatest demoralization of business and all other normal activities. Before complete recovery from such an epidemic occurred, another one would come. Yellow fever was whipped in New Orleans in 1905, never to return as long as our present state of civilization survives.

Half a century ago, malaria occurred during most of the year in every part of the city. In a large part of the city, transmission of malaria was prevalent. A large proportion of the people suffered more or less from the disease nearly every year, with many deaths and much greater suffering and impairment of health and happiness. The installation of a drainage system and other developments eliminated most of the favorable breeding places for the particular kind of mosquitoes that transmit malaria, and this disease rapidly declined. Today there are only a few small areas in the city where malaria may be contracted, and most of these are in the outskirts or suburbs. If it were not for cases from outside the city, a good many of which are contracted in other countries, there would be hardly enough malaria in New Orleans to teach medical students.

Twenty years ago, and more, the gastro-intestinal diseases were prevalent. Typhoid, paratyphoid, dysentery and diarrheas took their toll of hundreds and thousands. Now, thanks to the wonderful supply of pure water and the modern sewerage system, these diseases are of much less—almost negligible—importance.

There are certain advantages from a health standpoint of the long warm season and the equable moist climate that prevail in New Orleans. Several diseases that occur the world over and take heavy tolls of life in most other cities and parts of the country with less favorable climates are much milder here. Pneumonia, diphtheria, scarlet fever, measles and several other diseases run much milder courses in New Orleans. Both the morbidity and the mortality of these diseases are less.

New Orleans should and ultimately surely will be not only a health and pleasure resort during the winter but all through the year for those seeking health, happiness and longevity. The annual mortality rate of the state of Louisiana is lower than that of either California or Florida, both health resort states. Life expectancy of a child born in New Orleans today is practically double what it was fifty years ago and compares favorably with other cities of the world.

The American Medical Association met in New Orleans in 1903, when the new drainage system had been in operation for just three years. When the Association met in 1920, the city had already become one of the most healthful and attractive in the country. While the temperature in late spring may be warm, it is never excessive, and sunstroke and heat prostration are practically unknown. Temperatures seldom exceed 75° for the week during which the Association will meet.

The city, because of its location, offers exceptional opportunities for the vacationist. On the shores of Lake Ponchartrain, easily accessible by electric car or automobile is West End, one of the delightful breathing spots which surround New Orleans. There is a great seawall, in back of which is a wide area of beautiful driveways, gardens and trees. Here, and also at Spanish Fort or Milneburg are excellent facilities for lounging and resting, for fishing, or other vacation delights.

New Orleans promises true Southern hospitality. Its facilities for instruction, for entertainment and for pleasure will be fully at the service of its guests.

TRANSPORTATION

Railroad Rates to New Orleans

A rate of one and one-half fares has been granted for the benefit of members of the American Medical Association and dependent members of their families who will attend the annual session at New Orleans. To have the benefit of a return rate of one-half fare, it will be necessary for each member to secure a certificate from the railroad ticket agent when he purchases his ticket to New Orleans. The certificate must be certified to by the Secretary of the American Medical Association, which may be done at the Registration Bureau to be located in the Municipal Auditorium in New Orleans, and must then be validated by a representative of the railroads, who will be on duty, May 9-13. When the certificate is so certified and validated, it will entitle its holder to purchase a return ticket to his home, over the same route traveled to New Orleans, at one-half fare. If the ticket agent at the member's home station does not have the certificate, he will furnish information as to where it may be obtained.

The certificate is *not* a receipt for money paid for a ticket, nor will a receipt entitle its holder to secure a return trip ticket at a reduced rate. Be sure to ask the ticket agent for a CERTIFICATE.

The dates of sale of tickets to New Orleans will be May 5-11, inclusive, in the territories of the Canadian Passenger Association (Eastern Lines), the Central Passenger Association, the Southeastern Passenger Association and the Trunk Line Association, except that the date for sale of tickets from New York, N. Y., via Mallory Steamship Line or via Southern Pacific Steamship Line will be April 30. The dates of sale of tickets will be May 4-10 in the territory of the New England Passenger Association. In the territories of the Western Passenger Association and the Transcontinental Passenger Association, the dates of sale of tickets from Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, northern Michigan, North and South Dakota and Wisconsin, from Manitoba, Canada, and from Julesberg, Colo., will be May 5-11; from Colorado (except Julesberg), New Mexico and Wyoming, May 4-10; from Arizona, British Columbia, Idaho, Montana, Nevada, Oregon (except via California), Utah and Washington, May 3-9; from California, May 2-8, and from Oregon via California, May 1-7.

Certificates properly certified and validated will be honored for purchasing tickets for the return journey at one-half fare up to and including May 17. No refund of fare will be made on account of failure to present validated certificate when purchasing return ticket. The return ticket must be used over the same route as that traveled going to New Orleans. Return tickets issued at the reduced rate will not be good on any limited train on which such reduced fare transportation is not honored.

When you purchase your ticket to New Orleans, secure from the railroad ticket agent a CERTIFICATE, which, when properly certified to and validated, will entitle you to purchase a return ticket to your home, over the same route traveled to New Orleans, at one-half the fare paid for your ticket to New Orleans.

BE SURE TO ASK YOUR RAILROAD TICKET AGENT FOR A CERTIFICATE WHEN PURCHASING YOUR TICKET TO NEW ORLEANS.

Automobile Routes

Those who desire to drive to New Orleans will encounter no difficulty in finding acceptable routes. Automobile clubs in various cities are in position to furnish dependable information concerning the best routes.

Trip by Steamship

A trip by steamer has been arranged by the Philadelphia County Medical Society. Physicians from other counties may also take advantage of this delightful trip. No freight will be carried, and the entire steamer will be for the exclusive use of the physicians and their families. Inquiries should be addressed to Mr. Franklin M. Crispin, Executive Secretary, Twenty-First and Spruce streets, Philadelphia.

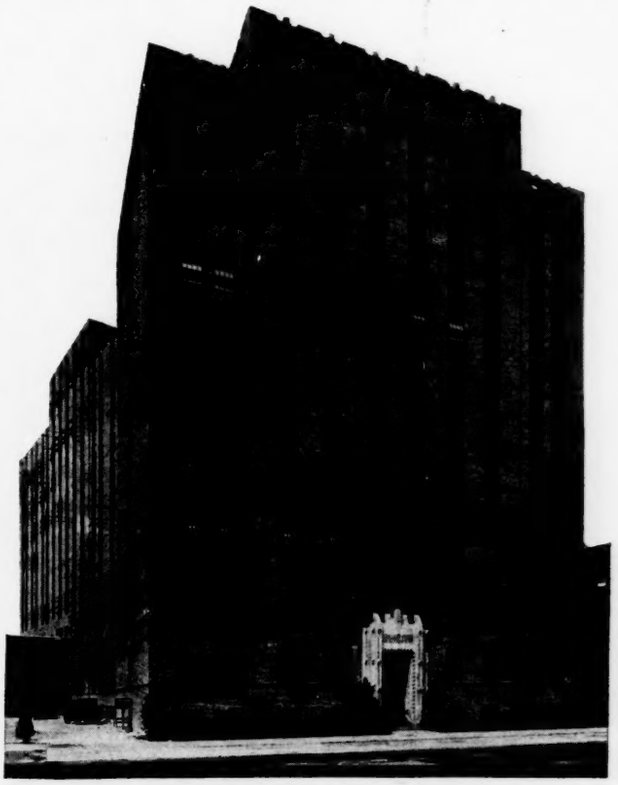
REGISTRATION

The Bureau of Registration will be located in the Municipal Auditorium at Beauregard Square between St. Ann and St. Peter streets. Members of the Committee on Registration of the Local Committee on Arrangements will be on hand to assist those who desire to register.

A branch postoffice in charge of government postoffice officials will be available for visitors, and an information bureau will be operated in connection with the Bureau of Registration.

Who May Register

Only Fellows, Affiliate, Associate and Honorary Fellows, and Invited Guests may register and take part in the work of the sections. Fellows of the Scientific Assembly are those who have, on the prescribed form, applied for Fellowship, subscribed to THE JOURNAL, and paid their Fellowship dues for the current year. The annual Fellowship dues provide a subscription to THE JOURNAL for one year. Fellowship cards are sent to all Fellows after payment of annual dues, and these cards should be presented at the registration window. Any who have not received cards for 1932 should secure them at once by writing to the American Medical Association, 535 North Dearborn Street, Chicago.



THE HUTCHINSON MEMORIAL BUILDING
New Home of the Tulane University Medical School

Members in Good Standing Eligible to Fellowship

Members in good standing in component county medical societies are members of constituent state associations and of the American Medical Association. All members in good standing may apply for Fellowship in the Scientific Assembly and are urged to qualify as Fellows before leaving home in order that pocket cards may be secured and brought to New Orleans so that registration can be more easily and more promptly effected. Application forms may be had on request.

Subscribers to THE JOURNAL who have not received pocket cards for 1932 should write to the American Medical Association for application blanks and information as to further requirements.

Register Early

Fellows living in New Orleans, as well as all other Fellows who are in New Orleans on Monday and Tuesday, should register as early as possible. The names of those who register will appear in the *Daily Bulletin* the next day, and this will enable visiting physicians to find friends if they have registered.

Suggestions That Will Facilitate Registration

Fellows should fill out completely the spaces on both sections of the front of the *white* registration card, which will be found on the tables in front of the Registration Bureau.

Physicians who desire to qualify as Fellows should fill out completely the spaces on both sections of the front of the *blue* registration card, and sign the application on the back. These cards will be found on the tables.

Entries on the registration cards should be written plainly, or printed, as the cards are given to the printer to use as "copy" for the *Daily Bulletin*, published on Tuesday, Wednesday, Thursday and Friday of the week of the session.

Fellows who have their pocket cards with them can be registered with little or no delay. They should present the filled out *white* registration card, together with their pocket cards, at one of the windows marked "Registration by Pocket Card." There the clerk will compare the two cards, stamp the pocket card and return it, and supply the Fellow with a badge, a copy of the official program and other printed matter of interest to those attending the annual session.

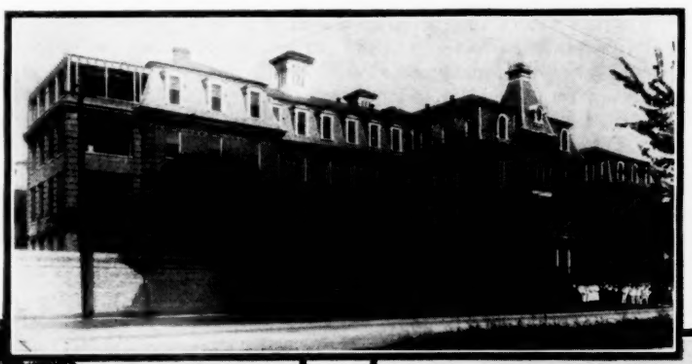
As previously stated, it will assist in registering if those who desire to qualify as Fellows will file their applications and qualify as Fellows by writing directly to the American Medical Association, 535 North Dearborn Street, Chicago, so that their Fellowship may be entered not later than April 25. Any applications received later than April 25 will be given prompt attention, but the Fellowship pocket card may not reach the applicant in time so that he can use it in registering at the New Orleans session.

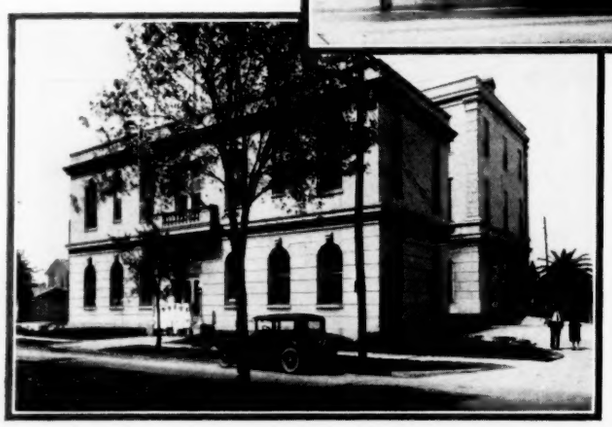
It will be possible for members of the organization to qualify as Fellows at New Orleans. In order to do this, applicants for Fellowship will be required to fill out both sections of the front of the *blue* registration card and to sign the formal application that is printed on the reverse side of the card. As already stated, however, registration can be effected more easily and more promptly if members qualify as Fellows before leaving home.

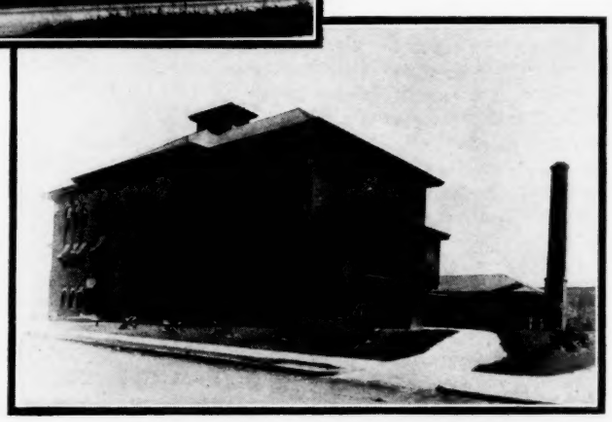
It is suggested that those who apply for Fellowship at New Orleans provide themselves, before leaving home, with certificates signed by the secretaries of their state associations, attesting that they are members in good standing in state and county branches of the organization. A state membership card for 1932 will be acceptable. The certificate or membership card should be presented along with the filled in *blue* registration card at the window in the booth marked "Applicants for Fellowship."

Registration for Delegates at the Roosevelt Hotel

Members of the House of Delegates may register for the Scientific Assembly at a booth at the Tip Top Inn of the Roosevelt Hotel. This arrangement is made for the convenience of the members of the House of Delegates, which will convene on Monday morning at 10 o'clock in the Tip Top Inn of the Roosevelt Hotel. Delegates are requested to register for the Scientific Assembly before presenting credentials to the Reference Committee on Credentials of the House of Delegates. Registration of delegates for the Scientific Assembly will begin at 8 o'clock, Monday morning, May 11, and delegates are urged to register early so that all members of the House of Delegates may be seated in time for the opening session of the House.







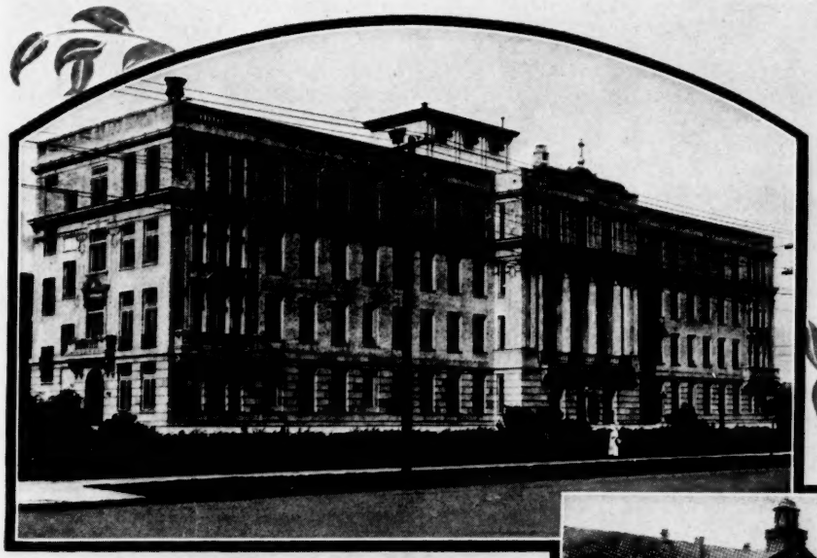
Lower Left—THE FRENCH HOSPITAL Center—DE PAUL SANITARIUM Lower Right—THE ILLINOIS CENTRAL RAILROAD HOSPITAL

NEW ORLEANS HOTELS

A list of New Orleans hotels is presented for the benefit of those who expect to attend the annual session of the American Medical Association, May 9-13. Dr. Emmett L. Irwin is the chairman of the Subcommittee on Hotels of the Local Committee on Arrangements and may be addressed at Box 1460, New Orleans, La. The advertising announcement and coupon for reservations appear on advertising page 72 of this issue.

Hotels at New Orleans

Name and Address	Single		Double		
	Without Bath	With Bath or Connecting Bath	Without Bath	With Bath or Connecting Bath	Suites
BIENVILLE ..... Lee Circle	.....	$2.50-3.50	.....	$5.00-8.00	.....
CHALMETTE ..... 808 Carondelet	.....	2.00-2.50	.....	3.00-4.00	.....
DE SOTO ..... 420 Baronne	$2.00	3.00	$3.50	5.00	$8-10
JUNG ..... 1500 Canal	.....	3.00-3.50	.....	5.00-6.00	10.00 upward
LAFAYETTE ..... 628 St. Charles	.....	2.00-2.50	3.00	3.50-4.50	.....
LA SALLE ..... 1113 Canal	2.00-2.50	3.00	2.50-3.00	4.00	.....
MARBERC ..... 1300 Canal	.....	2.50-3.50	.....	4.00-7.00	.....
MONTELEONE ..... 214 Royal	2.00	3.00-4.00	3.00-4.00	5.00-6.00	10-12
PONTCHARTRAIN ..... 2031 St. Charles	.....	.....	.....	5.00-7.00	10-12
ROOSEVELT ..... 123 Baronne	Booked to capacity				
ST. CHARLES ..... 211 St. Charles	2.00-2.50	3.00-5.00	3.50-4.00	5.00-8.00	12-15



HOTEL DIEU

CHARITY HOSPITAL

TOURO INFIRMARY

EYE, EAR, NOSE AND THROAT HOSPITAL

BAPTIST HOSPITAL

SOME NEW ORLEANS HOSPITALS

ENTERTAINMENT

President's Reception

The President's Reception will be held in the Palm Room and Venetian Room of the Roosevelt Hotel, Thursday evening, May 12.

Dinner for Officers and Delegates

On Monday, May 9, at the Roosevelt Hotel, there will be a dinner for officers and members of the House of Delegates of the American Medical Association given by the Louisiana State Medical Society and the Orleans Parish Medical Society.

Visit to Leprosarium

Dr. O. E. Denney, medical officer in charge, extends an invitation to the members of the Section on Dermatology and Syphilology of the American Medical Association, to visit the National Leprosarium at Carville, La., on Tuesday, May 10. The institution is about 90 miles from New Orleans, and it is planned to have busses leaving the Roosevelt Hotel at 9 a. m.

Section members desiring to take advantage of this opportunity are asked to write to Dr. Ralph Hopkins, Pere Marquette Building, New Orleans, or to the secretary of the section, Dr. Francis E. Senear, 55 East Washington Street, Chicago.

Dinner for Medical Veterans

There will be a dinner for the Medical Veterans of the World War, with Major General Patterson as speaker, at 6:30 p. m., Tuesday, May 10, at the Roosevelt Hotel.

Phi Rho Sigma Luncheon

The Phi Rho Sigma Medical Fraternity will give a luncheon at Galatoire's Restaurant, 109 Bourbon Street, at 12 noon, Wednesday, May 11.

Alumni Banquet

The Rush Medical College alumni will have a banquet at the Roosevelt Hotel on Wednesday, May 11, at 6:30 p. m.

PORPOISE CAUGHT AT SHELL ISLAND PASS

BULL REDS AND JACK CAUGHT AT GRAND ISLE

THE EVERGREEN GOLF COURSE

Dinner for Gastro-Enterologists

The Section on Gastro-Enterology and Proctology will hold its annual dinner, Wednesday evening, May 11, at 7 o'clock, at Antoine's Restaurant, 713-717 St. Louis Street. Tickets at $6 may be obtained from the secretary of the section, Dr. A. F. R. Andresen, 88 Sixth Avenue, Brooklyn.

A. O. A. Dinner

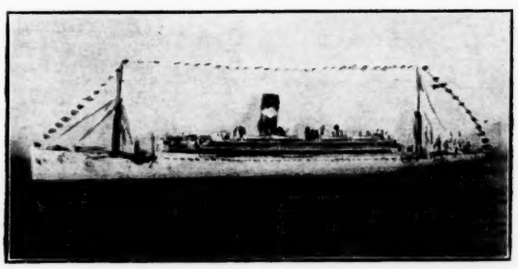
On Thursday, May 12, at 6 p. m., the Alpha Omega Alpha Honorary Fraternity will have its annual dinner and meeting at the Roosevelt Hotel. Dr. Lafayette B. Mendel, Yale University, will be the speaker.

Trip to Vicksburg

Hon. J. C. Hamilton, mayor of the city of Vicksburg, Miss., has suggested that the members of the Association visit Vicksburg on the way to or from New Orleans.

Postsession Cruises

Members of the American Medical Association and their families are offered special cruises after the annual session to Cuban and Central American ports. A steamer belonging to



THE S. S. ATENAS OF THE UNITED FRUIT COMPANY GREAT WHITE FLEET

the great white fleet of the United Fruit Company will sail from New Orleans, Saturday, May 14, at 11 a. m., for Havana, Cuba, Cristobal, Canal Zone, and Tela, Honduras, or Barrios, Guatemala, returning to New Orleans, Friday, May 27, at 8 a. m.

This trip has been arranged especially in response to the demand for a short vacation cruise. The number that can be accommodated is limited to eighty and all members desiring to join the party should make known their reservation requirements at once, as space will be assigned in the order in which applications are received. The fare, covering all expenses, varies from $140 to $220 per person, according to accommodations selected. All tickets are subject to a $5 U. S. war tax. The fares include meals and first-class stateroom accommodations for the entire cruise, steamer chairs, and shore excursion programs at the tropical ports—briefly, all expenses except gratuities, laundry, beverages and other items of a purely personal nature.

For further information and reservations, one may address the United Fruit Company, 111 West Washington Street, Chicago.

The Standard Fruit and Steamship Company will also schedule a special ship for physicians, their wives and friends. The ship will leave New Orleans on Saturday, May 14, for a twelve day trip to Havana, the Panama Canal and Puerto Cabezas, the banana port of Nicaragua. The rates vary from $97.50 to $127.50 per person, covering steamer, berth and meals.

The steamer may be used as a hotel in Havana and Panama.

This trip covers 3,068 nautical miles. The company provides a fast oil burning steamer with first-class accommodations—all outside staterooms. On board ship the amusements offered include shuffleboard, quoits, deck tennis, deck golf and numerous other games. This trip provides for return to New Orleans on May 26 at 8 a. m.

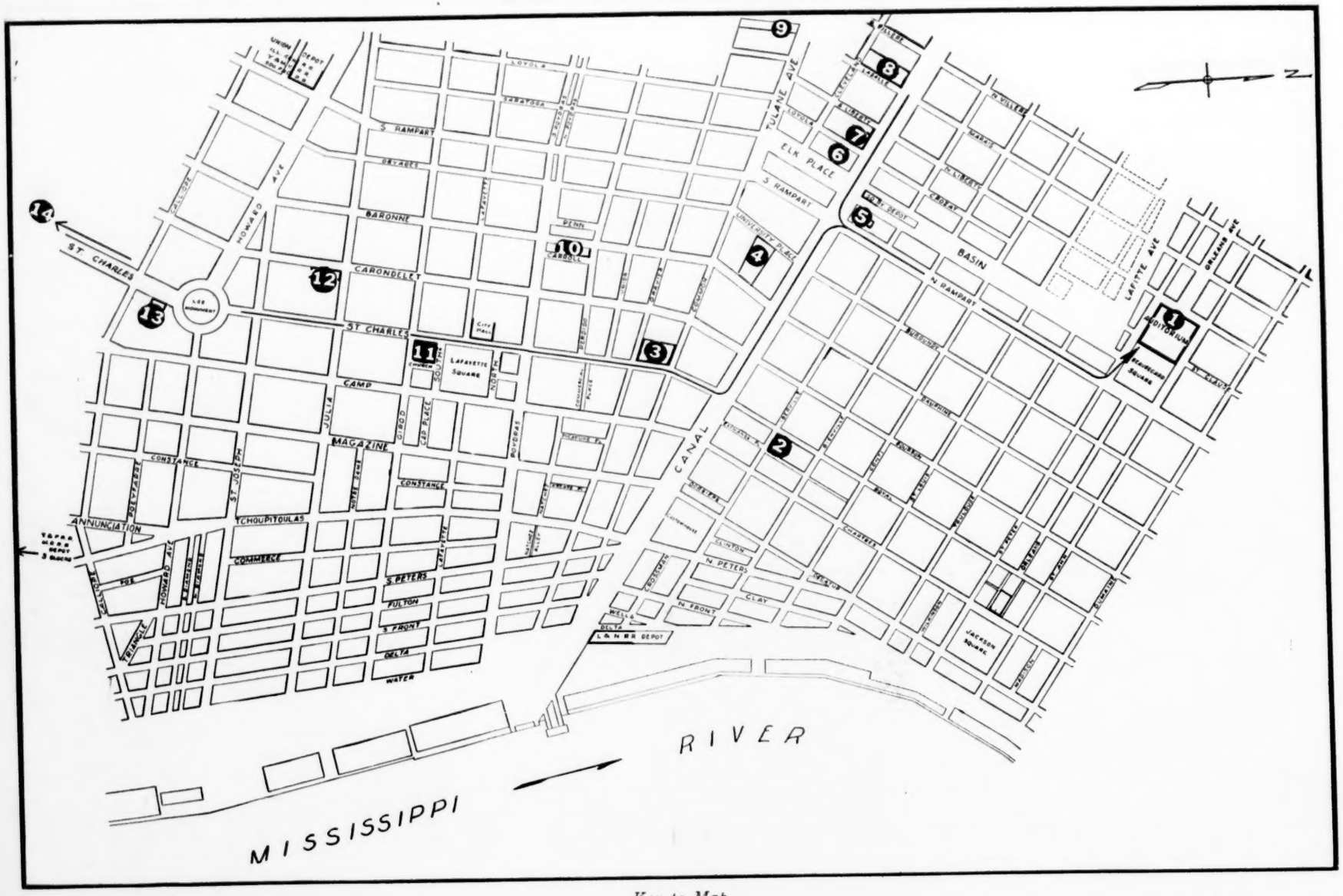
Several physicians have already booked. For further information address the Gardner-Coburn Tours, Bienville Hotel, New Orleans, or the Standard Fruit and Steamship Company, 224 Baronne Street, New Orleans, or 180 North Michigan Avenue, Chicago.

Invitation to Gulf Coast

The Harrison-Stone-Hancock County Medical Society, representing the Gulf Coast, is anxious to have the members of the American Medical Association visit the Gulf Coast after the adjournment of the annual session.

SOME NEW ORLEANS HOTELS

MAP OF NEW ORLEANS



Key to Map

Auditorium	1	De Soto Hotel	10	Lafayette Hotel	11	Monteleone Hotel	2	St. Charles Hotel	3
Bienville Hotel	13	Elks Club	6	La Salle Hotel	5	Pontalba Apartments	14	Tulane Medical School	9
Chalmette Hotel	12	Jung Hotel	8	Marbere Hotel	7	Roosevelt Hotel	4		

MEETING PLACES

HOUSE OF DELEGATES: Tip Top Inn, Roosevelt Hotel, 123 Baronne Street.

OPENING GENERAL MEETING: Concert Hall, Municipal Auditorium.

CLINICAL LECTURES: Concert Hall, Municipal Auditorium.

SECTIONS OF SCIENTIFIC ASSEMBLY

PRACTICE OF MEDICINE: Concert Hall, Municipal Auditorium.

SURGERY, GENERAL AND ABDOMINAL: Gymnasium of Elks Club, Elk Place.

OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY: Gymnasium of Elks Club, Elk Place.

OPHTHALMOLOGY: Roof Garden, Jung Hotel, 1500 Canal Street.

LARYNGOLOGY, OTOLOGY AND RHINOLOGY: Roof Garden, Jung Hotel, 1500 Canal Street.

DISEASES OF CHILDREN: Concert Hall, Municipal Auditorium.

PHARMACOLOGY AND THERAPEUTICS: South Assembly Hall, Second Floor, Municipal Auditorium.

PATHOLOGY AND PHYSIOLOGY: South Assembly Hall, Second Floor, Municipal Auditorium.

NERVOUS AND MENTAL DISEASES: Hall at Monteleone Hotel, 214 Royal Street.

DERMATOLOGY AND SYPHILOGY: Hall at St. Charles Hotel, 211 St. Charles Street.

PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH: Hall at Tulane University School of Medicine, 1430 Tulane Avenue.

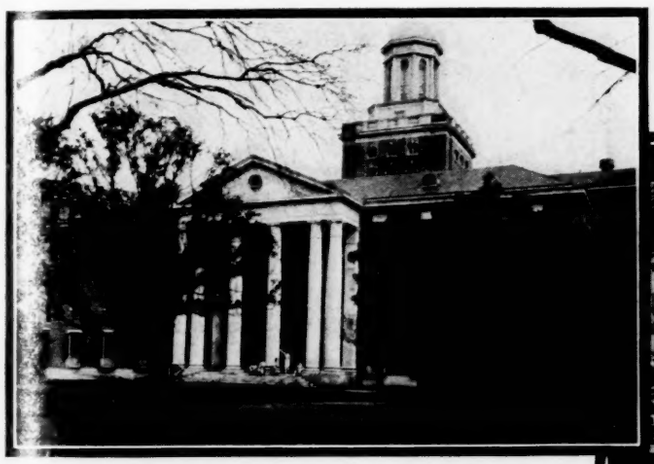
UROLOGY: Hall at St. Charles Hotel, 211 St. Charles Street.

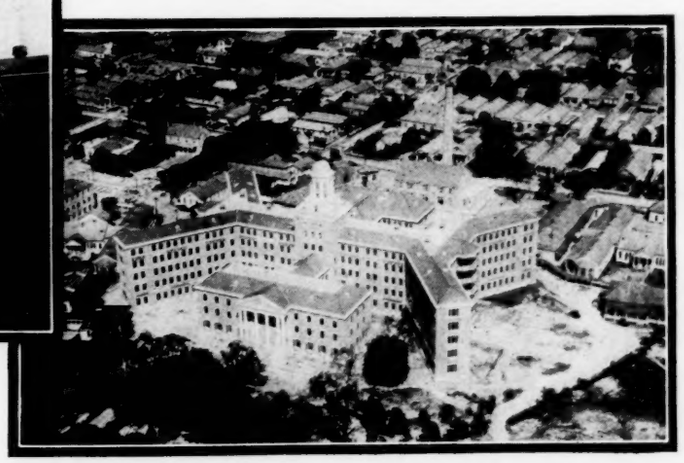
ORTHOPEDIC SURGERY: Hall at Monteleone Hotel, 214 Royal Street.

GASTRO-ENTEROLOGY AND PROCTOLOGY: Hall at Tulane University School of Medicine, 1430 Tulane Avenue.

RADIOLOGY: North Assembly Hall, Second Floor Municipal Auditorium.

The Municipal Auditorium is located at Beauregard Square between St. Ann and St. Peter streets.





Left—ENTRANCE TO THE MAIN BUILDING AND FIRST UNIT OF THE NEW $2,000,000 UNITED STATES MARINE HOSPITAL IN NEW ORLEANS.

Right—AERIAL VIEW SHOWING HOSPITAL IN PROCESS OF CONSTRUCTION.

CLINICAL LECTURES

CONCERT HALL, MUNICIPAL AUDITORIUM

MONDAY, MAY 9—2 P. M.

Drug Addiction—A World-Wide Problem.
P. WOLFF, Berlin, Germany

Drug Addiction in the United States.
WALTER L. TREADWAY, Washington, D. C.

Cancer of the Gastro-Intestinal Tract.
J. SHELTON HORSLEY, Richmond, Va.

Motion Picture on Cancer.
FRANCIS CARTER WOOD, New York

TUESDAY, MAY 10—9 A. M.

Early Diagnosis of Poliomyelitis. LEWIS J. POLLOCK, Chicago

The Use of Convalescent Serum in Poliomyelitis.
WILLIAM H. PARK, New York

Orthopedic Treatment of Poliomyelitis.
WILLIS C. CAMPBELL, Memphis, Tenn.

Disturbances of Peripheral Circulation.
ARTHUR W. ALLEN, Boston

TUESDAY, MAY 10—2 P. M.

Appendicitis. H. A. ROYSTER, Raleigh, N. C.

The Changing Diet of the American People.
LAFAYETTE B. MENDEL, New Haven, Conn.

The Diagnosis of Early Pulmonary Tuberculosis.
LAWRASON BROWN, Saranac Lake, N. Y.

Motion Picture on Cancer.
FRANCIS CARTER WOOD, New York

LOCAL COMMITTEE ON ARRANGEMENTS

W. H. SEEMANN, Chairman

CHAIRMEN OF SUBCOMMITTEES

Sections and Section Work, J. H. Musser
Registration, C. Grenes Cole
Technical Exhibits, P. F. Murphy
Scientific Exhibits, C. C. Bass
Entertainments, W. P. Gardiner
Hotels, Emmett L. Irwin
Printing, P. T. Talbot
Finance, Fred L. Fenno
Publicity, H. E. Bernadas
Badges, H. Theodore Simon
Opening General Meeting, Roy B. Harrison
Women Physicians, Elizabeth Bass
Golf, J. P. O'Kelley
Dinner to Delegates, J. J. Wymer
Alumni Dinners, Lucian H. Landry
Information, P. Jorda Kahle

WOMAN'S AUXILIARY

All women attending the annual session of the American Medical Association are invited to participate in this program whether they are members of the Woman's Auxiliary or not.

Headquarters: Jerusalem Temple, 1137 St. Charles Street

MONDAY, MAY 9

6:00 p. m. National Board Dinner and Preconvention Meeting. (For Board Members only. Tickets $1.50.) Orleans Club, 5005 St. Charles St.

TUESDAY MAY 10

9:00 a. m. General Meeting, Mrs. Arthur B. McGlothlan, presiding. Jerusalem Temple.
12:30 p. m. Buffet Luncheon. (Tickets $1.) Jerusalem Temple.
2:00 p. m. Walk Through Vieux Carré, with Guides, Starting from the Patio Royale.
4:00 p. m. Tea. Patio Royale.
8:00 p. m. Opening General Meeting of the American Medical Association. Concert Hall, Municipal Auditorium.

WEDNESDAY, MAY 11

9:00 a. m. General Meeting, Mrs. Arthur B. McGlothlan, presiding. Jerusalem Temple.
12:30 p. m. Auxiliary Luncheon.* (Twelve Minutes from Canal Street or Jerusalem Temple. Luncheon tickets, $1.50; transportation, 25 cents.) Southern Yacht Club.
2:30 p. m. Postconvention Board Meeting. Southern Yacht Club.
2:30 p. m. Through Garden Gates: Glimpses of New Orleans.*
4:00 p. m. Teas in Private Residences.
8:30 p. m. Divertissements in the Garden. New Orleans Country Club.
10:00 p. m. Buffet Supper. New Orleans Country Club.
Negro Spirituals. Courtesy of the Woman's Auxiliary to the Louisiana State Medical Society.

SKY LINE THROUGH THE PALMS

THURSDAY, MAY 12

9:00 a. m. General Meeting. Mrs. Walter Jackson Freeman, presiding. Jerusalem Temple.
10:00 to 10:50 a. m. Special Round Table Conferences.
11:00 to 11:50 a. m. Jerusalem Temple.
12:00 m. Buffet Luncheon. (Tickets $1.) Jerusalem Temple.
1:00 p. m. Trip to Oak Alley Plantation, Visiting Spillway; Return at 6 p. m.* (Round trip, $2 per person.)

or

2:00 p. m. Round Trip Over Lake Pontchartrain, via New Bridges.* ($2 per person.)

or

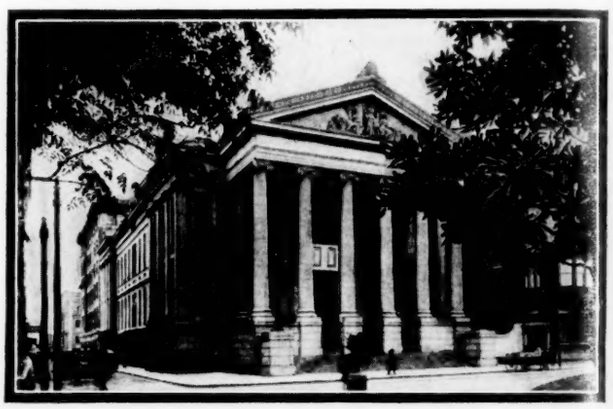
2:30 p. m. Trip to Versailles Plantation, Battle Field of New Orleans, Docks and Wharves.* (Round trip $1 per person.)

or

2:30 p. m. Delgado Museum, City Park, Newcomb Art School and Audubon Park.* (Round trip $1 per person.)

or

2:30 p. m. Mayan Exhibit.* (Round trip, 25 cents per person). Tulane University.
9:00 p. m. President's Reception and Ball. Roosevelt Hotel.



CITY HALL
Modeled after the Parthenon. St. Charles Street Corner Lafayette

FRIDAY, MAY 13

9:00 a. m. Trip to Gulf Coast.* Leaving L. & N. Station at 9 a. m., returning to New Orleans at 6 p. m. (Round trip, including luncheon and beautiful scenic drive along the coast, $6 per person.)
10:00 a. m. Golf Tournament. Metairie Golf Club.

* All trips start from Jerusalem Temple. Transportation paid by individuals.

GOLF TOURNAMENT

Tournament of American Medical Golfing Association

New Orleans will be host to the American Medical Golfing Association for its Eighteenth Annual Tournament on Monday, May 9. The thirty-six hole match will be played over the New Orleans Country Club course and will be followed by the golfers' banquet and distribution of prizes. Eight events with approximately fifty trophies and prizes will attract some 150 men to the New Orleans tournament. Fixed competition includes low gross, low net, and choice score handicap, for thirty-six holes. Eighteen hole trophies are given for low gross, low net, maturity (limited to Fellows over 60 years of age), and the "oldguard" (limited to competition of past presidents). The mayor of the host city is always invited to present the trophy for kickers' handicap.

Dr. Frank A. Kelly, Detroit, is president and Drs. Homer K. Nicoll, Chicago, and John Welsh Croskey, Philadelphia, are vice presidents of the American Medical Golfing Association. Dr. J. P. O'Kelley is chairman of the local committee on golf in charge of arrangements at New Orleans.

Invitations to attend the Golf Tournament in New Orleans are now being sent to members from the executive office. Any male Fellow of the American Medical Association in good standing is eligible to membership in the American Medical Golfing Association on acceptance of its by-laws and payment of the enrolment fee. All communications concerning the Golf Tournament should be addressed to Mr. William J. Burns, 4421 Woodward Avenue, Detroit.

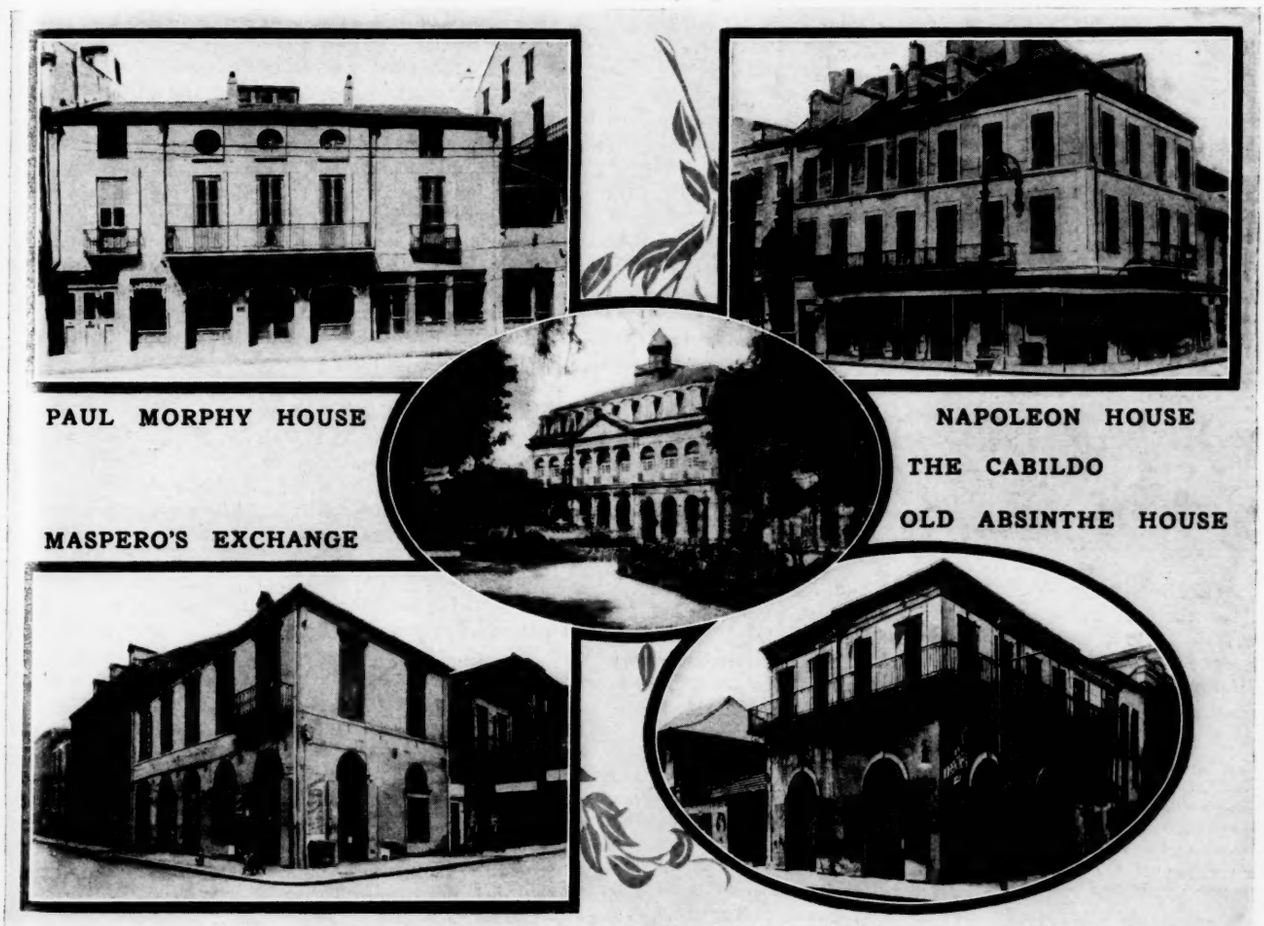
A VISIT TO OLD NEW ORLEANS

The old part of New Orleans dates back almost to the beginning of American history. Its charm is so great that it has been made the subject of poetry and the scene of many a novel. Its narrow streets and alleys are bordered by quaint buildings with picturesque wrought iron balconies. The history of New Orleans includes parts of French, Spanish and Creole domination revealed in the structures that are typical of the old city. Not only may the visitor see the buildings shown in these illustrations, but also the old French market, the St. Louis Cathedral and cemeteries, Chalmette Monument, Jackson Square and other historical structures.

The Place d'Armes, the spot around which New Orleans was built, is now called Jackson Square and is graced with the equestrian statue of Andrew Jackson. It is faced on two parallel sides by the Pontalba buildings, on the third side by the Mississippi River and on the fourth side by St. Louis Cathedral, the Museum and the Cabildo. On this spot the life of early New Orleans was lived and over it at different times floated three flags, the French, the Spanish and the American. It was here that the Louisiana purchase from Napoleon and France by Thomas Jefferson and the United States was celebrated.

The Jackson Square is the center of the Vieux Carre, the old French quarters. Here at one time lived Paul Tulane, whose name is perpetuated in Louisiana through the Tulane University, the university whose medical school, together with that of the Louisiana State University, makes New Orleans one of the larger medical teaching centers in the United States. As they are both connected with the Charity Hospital a wealth of teaching material is always at hand. Here also lived Lafcadio Hearn, George Cable, Beauregard and Davis.

Here also are the famous restaurants whose cuisine is known the world over—the Louisiane, Alciatoire, Begue, Galatoire and a host of others, who have taught the world that there is a difference between eating and dining.



Paul Morphy House

Photo by Franck

One of the most beautifully preserved specimens of Creole architecture. It is located on Royal Street, is said to have been built for the first bank in the Mississippi Valley, was the home of the celebrated chess player Paul Morphy, and is now known as the Patio Royal.

Napoleon House

Photo by Franck

Said to have been erected early in the 19th century by Governor Girod as a refuge for Napoleon when his rescue from St. Helena was planned in New Orleans; corner Chartres and St. Louis streets.

Old Absinthe House

Photo by Linnenkohl

One of the most colorful of the many historic structures in old New Orleans, this rendezvous of the Pirates Lafitte was built in 1752, one of the oldest buildings in the Mississippi Valley, and has been a drinking and eating place for more than 100 years, since 1826.

An interesting feature is that between the first and second floors is an "entre sol," or hidden floor, wherein smuggled goods were hidden by pirates in the days of old.

The Cabildo

Photo by Sweeney

Erected in 1795 by Don Almonastery Roxas, who gave it to the city. The transfer of Louisiana from Spain to France and from France to the United States took place here in 1803. The first Protestant services in Louisiana were held in this building, which now houses the Louisiana Historical Museum.

Maspero's Exchange

Photo by Franck

Here, General Jackson is said to have planned the defense of New Orleans in 1815. Generations ago "La Bourse de Maspero" was the literary restaurant of New Orleans.

THE SCIENTIFIC EXHIBIT

The Scientific Exhibit will be located on the Auditorium Floor of the Municipal Auditorium, in close proximity to the registration desks. The same general arrangement of booths and decorations will be carried out as in preceding years. An added feature at New Orleans, however, will be motion picture programs sponsored by several of the sections, in conjunction with the section exhibits. The pictures will be shown in spaces under the balcony directly adjoining the section exhibit, where the audiences may be comfortably seated, and will be run according to published schedules.

Admission will be limited to regularly enrolled Fellows or to guests of the Association wearing badges at the convention, and to special guests to whom cards of admission have been issued. The exhibit is *not* open to the public.

Special Exhibits

At the request of the Committee on Scientific Exhibit of the Board of Trustees, there will be three special exhibits this year. (These exhibits are not open to awards.)

EXHIBIT ON CANCER: The Committee on Scientific Exhibit of the Board of Trustees has appointed a special committee consisting of Max Cutler, Chicago, R. S. Ferguson, New York, and Frank W. Hartman, chairman, Detroit, to take charge of the exhibit on cancer. Various phases of the problem will be considered, including the diagnosis, pathology, grading and treatment of cancer. Carcinoma of the genito-urinary tract, both male and female, gastro-intestinal tract, and thyroid will be included.

The following demonstrators will be on hand to assist the committee: A. C. Broders, Rochester, Minn.; Shields Warren, Boston, and Charles F. Geschickter, Baltimore.

A continuous program of illustrated lectures and motion pictures will be shown in an amphitheater adjoining the exhibit where visiting physicians may be comfortably seated.

This is a joint program with the American Society for the Control of Cancer, which is sponsoring an exhibit on carcinoma of the breast. Contributions to this program will be given by Francis Carter Wood, New York; Joseph C. Bloodgood, Baltimore; Burton J. Lee, New York, and C. C. Little, New York.

EXHIBIT ON POLIOMYELITIS: The exhibit on poliomyelitis is presented by a special committee on poliomyelitis exhibit under the joint auspices of the Committee on Scientific Exhibit of the Board of Trustees and the United States Public Health Service. The committee is composed of John E. Gordon, Detroit; Arthur T. Legg, Boston, and R. C. Williams, chairman, Washington, D. C. An advisory committee representing several sections of the Scientific Assembly has been appointed as follows:

Section on Pathology and Physiology, William H. Park, New York.
Section on Nervous and Mental Diseases, J. C. McKinley, Minneapolis.
Section on Diseases of Children, Kenneth D. Blackfan, Boston.
Section on Orthopedic Surgery, Walter Truslow, Brooklyn.
Section on Practice of Medicine, Franklin E. Murphy, Kansas City, Mo.
Section on Preventive and Industrial Medicine and Public Health, S. D. Kramer, Boston.

The exhibit will consist of charts, specimens, apparatus, motion pictures, talks and demonstrations on different phases of poliomyelitis, each booth being under the special direction of a person experienced in that particular field, as follows:

1. Epidemiology, W. Lloyd Aycock, Boston.
2. Etiology and pathology, Harold L. Amoss, Durham, N. C.
3. Preparalytic diagnosis, John E. Gordon, Detroit.
4. Early treatment, E. B. Shaw, San Francisco.
5. Respiratory treatment, James L. Wilson, Boston.
6. Paralytic diagnosis, J. P. Leake, Washington, D. C.
7. Paralytic treatment other than respiratory, Arthur T. Legg, Boston.

Demonstrations will be continuous throughout the week and a pamphlet containing the essentials of each demonstration will be distributed.

EXHIBIT ON PHYSICAL THERAPY: A special exhibit on physical therapy is presented by the Committee on Scientific Exhibit of the Board of Trustees through a committee composed of K. G. Hansson, New York, C. L. Lowman, Los Angeles, and John S. Coulter, chairman, Chicago.

The following subjects will be treated:

1. Hydrotherapy and thermotherapy
2. Massage.
3. Hydrogymnastics.
4. Therapeutic exercises.

The committee will be assisted by a corps of experienced demonstrators. The exhibit will be correlated with the exhibits of the American Committee for the Control of Rheumatism and of the Council on Physical Therapy of the American Medical Association. Demonstrations will run continuously throughout the week, with the following demonstrators:

Hydrotherapy and thermotherapy: Frank H. Krusen and Joseph B. Nylin, Philadelphia.
Massage: Willis S. Peck, Ann Arbor, Mich.; Upton W. Giles and Nathan H. Polmer, New Orleans.
Hydrogymnastics: C. L. Lowman, Los Angeles, and K. G. Hansson, New York.
Therapeutic exercise: F. H. Ewerhardt, St. Louis, and C. O. Molander, Chicago.

Pathologic and Laboratory Exhibits

Besides the exhibits described under the pathologic and laboratory heading, there are many other exhibits dealing with pathology in one form or another, sponsored by the various sections of the Scientific Assembly.

UNITED STATES PUBLIC HEALTH SERVICE GROUP: O. E. DENNEY, National Leprosarium, Carville, La.: Leprosy. Exhibit of natural color photographic plates showing the in vitro behavior of lepra and certain other acid-fast micro-organisms in the presence of leukocytes. G. A. WHEELER and W. H. SEBRELL, Washington, D. C.: Pellagra. Exhibit showing distribution, seasonal variation, experimental production, prevention and treatment of pellagra by diet. Exhibit also shows the production, prevention and treatment of the experimental disease in dogs and albino rats, with a demonstration of evidence that the disease is due to lack of a specific accessory food factor.

MAYO CLINIC AND MAYO FOUNDATION GROUP: F. C. RANKIN, J. DEJ. PEMBERTON, C. F. DIXON and A. S. GRAHAM: Surgery of the colon and rectum. The technic of ileocolostomy, obstructive resection, two stage abdominoperineal resection and total colectomy illustrated by drawings of surgical procedure, moulages, specimens removed, history abstracts, roentgenograms and photomicrographs. A. W. ADSON, J. R. LEARMONTH, E. S. JUDD and F. W. RANKIN: Sympathetic neurectomy for Hirschsprung's disease. Illustrated by drawings, roentgenograms and photographs. J. A. BARGEN, P. W. BROWN and H. M. WEBER: Diagnosis and medical treatment of the colon and rectum. Chronic ulcerative colitis and inflammatory lesions such as endamebiasis and diverticulitis, illustrated by specimens, history abstracts, photomicrographs, and charts demonstrating steps in diagnosis and treatment. H. M. WEBER: Roentgenologic demonstration of polyposis and polypoid lesions of the colon by the "combined method." Demonstration of the precision with which otherwise unrecognizable polypoid lesions in various segments of the colon are diagnosed by the use of the "double contrast method"; roentgenograms taken after administration of opaque enemas as well as the "double contrast" roentgenogram compared. LOUIS A. BUIE: Proctology, diagnostic and surgical. Moulages showing hemorrhoids, tuberculosis, ulcerative colitis, amebic colitis and carcinoma as viewed through the proctoscope.

JACK C. NORRIS, Grady Hospital, Emory University Division, Atlanta, Ga.: Differential study of the anemias. Exhibit of natural and hand painted photomicrographs of blood cells and histologic sections illustrating the important features of chloroma, tapeworm, carcinoma, pernicious anemia, von Jaksch's pellagra, aplastic, idiopathic, Hodgkin's disease, hookworm, syphilis and infectious types due to specific bacteria and others. Case history will also be shown.

BENJAMIN S. KLINE, Mount Sinai Hospital, Cleveland: Ball precipitation tests for the diagnosis and exclusion of syphilis. Exhibit demonstrating the steps in the ball precipitation tests for the diagnosis and exclusion of syphilis.

MAX BALLIN and PLINN F. MORSE, Harper Hospital, Detroit: Parathyroidism and surgery of parathyroid glands. Exhibit showing the diagnosis, changes in blood chemistry,

skeletal changes, determination of muscular hypotonia by chronaxias and influence of parathyroidectomy; technic of parathroidectomy; microscopic specimens of parathyroids.

THURMAN B. RICE and CLYDE CULBERTSON, Indiana University School of Medicine, Indianapolis: Electrophoresis—bacterial study. Exhibit illustrating various types of electrophoresis apparatus consisting of cells, electrical connections and microscopes for demonstration of methods of measuring electrophoretic charges on bacteria as a means of studying virulence, agglutination and related phenomena.

PHILIP B. MATZ, Medical Research Subdivision, Veterans Administration, Washington, D. C.: Studies of (1) arthritis; (2) cancer; (3) manic-depressive psychosis. Exhibit of charts showing "extensive" and "intensive" clinical and statistical approaches to the diseases under consideration.

ROY R. KRACKE, Department of Pathology, Emory University, Atlanta, Ga.: Granulocytopenia (agranulocytosis). Exhibit of (1) charts of case reports of granulocytopenic conditions; (2) colored plates of bacteria from cases of granulocytopenia; (3) colored plates of pathologic conditions of the bone marrow; (4) records of experimental granulocytopenia; (5) charts bearing on distribution, incidence, age and sex; (6) colored plates showing pathology of ulcers, and so on.

Surgical and Anatomic Exhibits

The exhibits described under this heading are in addition to those sponsored by the Section on Orthopedic Surgery, the Section on Obstetrics, Gynecology and Abdominal Surgery and the other sections showing exhibits which include surgical and anatomic subjects.

JAMES E. DAVIS and A. L. AMOLSCH, Detroit College of Medicine and Surgery, Detroit: Exhibit of thin gross sections in natural colors of malignant tissues illustrating a new advantageous method of teaching gross pathology of tumors.

ALTON OCHSNER, I. M. GAGE and R. A. CUTTING, Department of Surgery, Tulane University Medical School, New Orleans: Experimental researches in ileus. Exhibit showing researches on (1) roentgen diagnosis; (2) effect of splanchnic block; (3) effect of drugs; (4) effect of hypertonic salt solutions; (5) effect of dextrose and insulin.

ALTON OCHSNER, EARL GARSIDE and AMBROSE STORCK, Department of Surgery, Tulane University Medical School, New Orleans: Prevention of reformation of serous adhesions by means of digestive ferments. Exhibit illustrating the prevention of reformation of peritoneal and pericardial adhesions following their division by means of vegetable digestive ferments.

ALTON OCHSNER, I. M. GAGE, R. A. CUTTING and EARL GARSIDE, Department of Surgery, Tulane University Medical School, New Orleans: Effect of heat and cold in peritonitis. Exhibit of photographs and charts illustrating the effect produced by the application of heat and cold to the abdomen in cases of experimental peritonitis.

ALTON OCHSNER and EARL GARSIDE, Department of Surgery, Tulane University Medical School, New Orleans: Intravenous injection of sclerosing substances. Exhibit illustrating the experimental study of a number of different commonly employed sclerosing substances showing comparative study of changes in vessels and demonstrating relative efficacy of solutions used in treatment of varicose veins.

VILRAY P. BLAIR, JAMES BARRETT BROWN and W. G. HAMM, Department of Surgery, Washington University School of Medicine, St. Louis: Exhibit consisting of photographs and drawings illustrating surgical restoration of the ocular appendages and associated structures.

HARRY E. MOCK, A. R. MORROW and C. E. SHANNON, Surgical Department, Northwestern University Medical School, and St. Luke's Hospital, Chicago: Skull fractures and intracranial injuries. Exhibit of a collection of case histories, roentgenograms and wax models of skull fractures and brain injuries.

MARY ISOM, Louisiana State University Medical Center, New Orleans: Art as applied to medicine. Exhibit of drawings in halftone, color and pen and ink illustrating (1) hypernephromic metastasis to heart; (2) kidney incision; (3) pelvic bone; (4) injected kidney; (5) neurocytoma; (6) first step of experimental operation on leg of dog.

SECTION EXHIBITS

Eleven sections of the Scientific Assembly have sponsored group exhibits through special exhibit committees. The individuals participating in these exhibits are listed under the description in the respective sections. In certain instances the exhibits are described in one section and cross indexed in another section where the subject matter is of interest to more than one group.

Section on Nervous and Mental Diseases

The exhibit under the auspices of the Section on Nervous and Mental Diseases covers several different phases of the diagnosis and treatment of mental conditions. The committee in charge consists of Earl D. Bond, Philadelphia; Groves B. Smith, Godfrey, Ill., and Thomas J. Heldt, chairman, Detroit.

NEW YORK STATE DEPARTMENT OF MENTAL HYGIENE, Albany, N. Y.: Mental diseases. Exhibit of charts and photographs illustrating the treatment of dementia paralytica by malaria, tryparsamide and radiotherm; also photographs of neuropathologic conditions, and statistical charts showing expectation of life of mental patients, rates of incidence of mental diseases in various nativity groups, and the like.

FRANCIS CLARK GRANT, University Hospital, Philadelphia: Ventriculography. Exhibit of roentgenograms illustrating the results with ventriculography in the diagnosis and localization of tumor of the brain; also motion pictures, models of the brain and photographs of patients with specimens.

W. JAMES GARDNER, Cleveland Clinic, Cleveland: Neurosurgical technic. Exhibit of photographs made at the operating table showing neurosurgical procedures, illustrating various steps in brain and spinal cord operations with patient in sitting position; also still and motion pictures of patient in whom entire right cerebral hemisphere has been removed.

L. A. LURIE, J. VICTOR GREENBAUM and E. A. NORTH: Behavior disorders in children. See description under Section on Diseases of children.

CARROL C. TURNER: Motion picture demonstration of neurologic motor phenomena in children. See description under SECTION ON DISEASES OF CHILDREN.

PHILIP B. MATZ: Studies of arthritis, cancer and manic-depressive psychosis. See description under PATHOLOGIC AND LABORATORY EXHIBITS.

SPECIAL EXHIBIT ON POLIOMYELITIS: See description under SPECIAL EXHIBITS.

The following motion pictures will be shown on a definite schedule to be announced later: FRANCIS CLARK GRANT, Philadelphia, "Technique of Ventriculography." W. JAMES GARDNER, Cleveland, "Postoperative Results in Removal of Right Cerebral Hemisphere." EDGAR A. DOLL, Vineland, N. J., "Mental Deficiency Associated with Birth Injuries." GROVES B. SMITH, Godfrey, Ill., "The Clinical and Occupational Relationships in the Mentally Deficient." THOMAS J. HELDT, J. CLARK MOLONEY and G. O. GRAIN, Detroit, "Dyskinesias."

Section on Obstetrics, Gynecology and Abdominal Surgery

In the exhibit sponsored by the Section on Obstetrics, Gynecology and Abdominal Surgery, special emphasis is placed on the motion picture program to be run continuously during the week, in a space adjoining the exhibits of the section. The committee in charge is composed of Norman F. Miller, Ann Arbor, Mich.; T. B. Sellers, New Orleans, and E. D. Plass, chairman, Iowa City.

J. BAY JACOBS, Georgetown University School of Medicine, Washington, D. C.: Female pelvis and its relationship to the mechanism of labor. Exhibit of drawings, roentgenograms and a small motion picture illustrating modern methods of internal pelvimetry.

A. JEROME THOMAS: Researches of the embryo and pregnancy by radiologic experiments. See description under SECTION ON RADIOLOGY.

Section on Ophthalmology

The exhibits under the auspices of the Section on Ophthalmology are of varied topics. The committee in charge is com-

posed of C. A. Bahn, New Orleans; G. L. Hardin, New Orleans, and Parker Heath, chairman, Detroit.

JOHN OLIVER MCREYNOLDS, St. Paul's Hospital, Dallas, and Medical Department of the University of Texas, Galveston: Further studies of the crystalline lens system with motion pictures illustrating modifications of intracapsular extraction by the employment of different types of suction apparatus. Additional studies of the lens system in man and the lower animals illustrated by lantern slides, photographs and actual specimens. A review of the entire subject of "lens surgery" from the ancient procedure of "couching" down to the accepted methods now employed will be shown.

NORTHWESTERN UNIVERSITY EYE CLINIC GROUP, Chicago: WILLIAM A. MANN: Color photography of the eye. Exhibit of colored photographs of normal and pathologic anterior segment taken by the stereocamera; also colored photographs of normal and pathologic fundus oculi taken by the Nordenson camera by the Findlay process. LEO MAYER: Cataract in myotonic dystropy. Photographs and case histories of several cases showing lens changes. JAMES M. LEBENSOHN: Experimental lens changes. Demonstration of the effects of hypertonic, hypotonic acid and alkaline solutions in the lens in vitro; also naphthalene and roentgen-ray cataracts.

CHARLES A. BAHN, Post Graduate Department, Louisiana State University Medical Center, New Orleans: Choroideremia. Exhibit of reproductions in colors of the fundi in the author's case and of every case of choroideremia published and illustrated in ophthalmic literature; tabulation of important factors concerning every case published; résumé of subject for distribution to those interested.

Section on Dermatology and Syphilology

The exhibit under the auspices of the Section on Dermatology and Syphilology is being continued on the subject "The Relation of Dermatology to Systemic Conditions," started last year. Special emphasis this year is being placed on acne rosacea, acne vulgaris, rheumatic dermatoses, gout, gonorrheal keratoses and pigmentations. The committee in charge is composed of John A. Devron, New Orleans; Clark W. Finnerud, Chicago; Robert L. Gilman, Philadelphia, and Fred D. Weidman, chairman, Philadelphia.

GROUP EXHIBIT OF THE SECTION ON DERMATOLOGY AND SYPHILOLOGY: A collection of photographs and charts from the following individuals dealing with acne rosacea, rheumatic dermatoses and pigmentations: SAMUEL AYRES, JR., and NELSON P. ANDERSON, Los Angeles; S. WILLIAM BECKER, E. B. RITCHIE, M. E. OBERMAYER, Chicago; HOWARD FOX, New York; ROBERT L. GILMAN, Philadelphia; LESTER HOLLANDER, Pittsburgh; EVERETT S. LAIN, Oklahoma City; GEORGE MILLER MACKEE, New York; WILLIAM ALLEN PUSEY, Chicago; THEODORE ROSENTHAL, New York, and FRED D. WEIDMAN, Philadelphia.

H. F. DEWOLF and J. V. VANCLEVE, City Hospital, Cleveland: Lymphogranuloma inguinale. Exhibit of charts, photographs, gross specimens and microscopic slides and photomicrographs showing history, clinical aspects, diagnosis and pathology of lymphogranuloma inguinale.

LESTER HOLLANDER, Pittsburgh Skin and Cancer Foundation, Pittsburgh: Diseases of the oral mucosa. Exhibit of mounted photographs with explanatory notes showing differential diagnosis of many common diseases of the oral mucosa.

W. H. GOECKERMAN and PAUL A. O'LEARY, Mayo Clinic, Rochester, Minn.: Treatment of generalized psoriasis and its complications. Exhibit consisting of photographs illustrating patients with generalized psoriasis before and after receiving treatment according to the tar-ultraviolet radiation system; various types of arthritis in association and the influence of treatment; histopathologic studies to call attention to the necessity of biopsy in generalized dermatosis as well as to support the diagnosis of psoriasis.

SIDNEY J. WILSON and SIMEON H. HULSEY, Fort Worth, Texas, and FRED D. WEIDMAN, Philadelphia: Chromoblastomycosis in Texas. Exhibit of wax models, photographs and charts illustrating clinical features. Cultures from Texas micro-organisms (in test tube and hanging drop), histologic sections of lesions, photomicrographs, experimental disease in white rats, and a comparison with Brazilian micro-organisms.

MAX E. OBERMAYER, Division of Dermatology, Department of Medicine, University of Chicago, Chicago: Eczema due to sensitization to rubber. Exhibit of photographs of patients, various kinds of natural and artificial rubber and chemicals used in manufacture.

E. K. STRATTON, San Francisco: Cutis verticis gyrata. Exhibit of photographs and photomicrographs of animal and human scalps.

C. W. EMMONS, College of Physicians and Surgeons, Columbia University, New York: Variations in ringworm fungi. Exhibit of photographs and photomicrographs illustrating variants occurring in single spore strains of ringworm fungi; also plate cultures and microscopic specimens.

RICHARD D. DEAN and J. A. MCINTOSH: Skin and oral lesions. See description under SECTION ON DISEASES OF CHILDREN.

O. E. DENNEY: Leprosy. See description under PATHOLOGIC AND LABORATORY EXHIBITS.

Section on Practice of Medicine

The exhibit sponsored by the Section on Practice of Medicine covers the following fields: (*a*) results of experimental and research work in general medicine; (*b*) graphic delineations of medical syndromes, statistical studies and results of experimentation and treatment; (*c*) historical development of knowledge in various phases of medicine. The committee in charge is composed of James H. Austin, Philadelphia; Eugene S. Kilgore, San Francisco, and L. G. Rowntree, chairman, Rochester, Minn.

FRANK A. HARTMAN, C. W. GREENE, J. J. MAISEL and G. W. THORN, University of Buffalo, Buffalo: Studies on the function and use of cortin. Exhibit consisting of charts, tables and photographs illustrating the function of cortin in animal experimentation; the effect of cortin in patients.

RICHARD ASHMAN, B. J. DELAUREAL and EDGAR HULL, Heart Station, Charity Hospital and Louisiana State University Medical Center, New Orleans: Electrocardiography. Exhibit demonstrating diagrammatic or other interpretation of unusual electrocardiograms, the purpose of which is to emphasize and to make clear certain frequently unappreciated phenomena, mechanisms or methods of interpretation; the presentation of a series of electrocardiograms in various etiologic types of heart disease.

L. G. ROWNTREE and C. H. GREENE, Mayo Clinic, Rochester, Minn.: Addison's disease. Exhibit consisting of charts, photographs and specimens illustrating the clinical and pathologic observations in Addison's disease and the response to treatment by suprarenal cortical hormone.

WILLIAM D. REID and V. BUSH, Evans Memorial and Massachusetts Institute of Technology, Boston: An improved from of electrocardiograph. Exhibit demonstrating a specially developed high gain amplifier and oscillograph. It has been assembled by the Department of Electrical Engineering at the Massachusetts Institute of Technology and used there and at the Evans Memorial. A combined research over a period of two years discloses larger and different records from the string galvanometer; a single heart beat can be stretched to 36 inches.

HERBERT A. WILDMAN, Department of Hygiene, College of Wooster, Wooster, Ohio: Epidemic gastro-enteritis and its relation to influenza. Exhibit consisting of statistical charts, incidence curves and cultures of various organisms isolated from cases indicating the etiology, epidemiology, pathogenesis, symptomatology, diagnosis and treatment of a clinical entity which has erroneously been called "gastro-intestinal flu," food poisoning, ptomaine poisoning, autointoxication, dietary indiscretion, and the like.

WILLIAM J. SCHATZ, Allentown, Pa.: Distilled water and saline solution parenterally; clinical and experimental effects. Tabulated and charted clinical responses, effects on red cell count and resistance, blood volume index, coagulability, hemoglobin and eosinophil percentage, white cell count, behavior and weights of experimental animals, micturition, hemoglobinuria, antisheep red cell hemolysin, and so on.

LOUIS F. BISHOP and LOUIS F. BISHOP, JR., New York: Vertigo and syncope in cardiac arrhythmias. Exhibit of electrocardiograms with descriptive titles.

RUSSELL L. HADEN, Cleveland Clinic, Cleveland: Clinical applications of determination of volume of red blood cells. Exhibit consisting of charts showing the methods of determination of the size of the red blood cell and clinical applications of data on the volume of the red blood cell in the study of different types of anemia.

NATHAN SMITH DAVIS III and SAMUEL J. LANG, Department of Medicine, Northwestern University Medical School and Cook County Hospital (Service of Don C. Sutton), Chicago: Studies in hypertension, variations in blood pressure curves in untreated and treated patients. Exhibit of charts illustrating the deviations from the average of each of the blood pressure readings in a series of untreated patients and the effects of certain drugs. Very marked variations in the blood pressure readings of untreated cases are shown, some apparently seasonal with low readings during the warmer months and higher during the colder.

JOHN H. MUSSER, Tulane University Medical School, New Orleans: Exhibit of original paintings of normal and abnormal blood.

LEWIS M. HURXTHAL, Lahey Clinic, Boston: Motion picture animation of the normal and abnormal heart beat with simultaneous electrocardiograms.

FREDERICK R. TAYLOR: Research based on health examinations. See description under SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH.

AMERICAN HEART ASSOCIATION: Arteriosclerotic Heart disease. See description under EDUCATIONAL EXHIBITS.

SPECIAL EXHIBIT ON POLIOMYELITIS: See description under SPECIAL EXHIBITS.

Section on Laryngology, Otology and Rhinology

The Section on Laryngology, Otology and Rhinology will again promote a motion picture program this year in addition to its exhibits. The pictures will be shown in a space adjoining the section exhibit. The committee in charge is composed of F. E. Lejeune, New Orleans; William A. Wagner, New Orleans, and Austin A. Hayden, chairman, Chicago.

CHEVALIER JACKSON and CHEVALIER L. JACKSON, Temple University School of Medicine, Philadelphia: Tumors of the lungs and tracheobronchial tree. Exhibit consisting of roentgenograms, endoscopic views and photomicrographs with motion picture films demonstrating the mechanisms of physical signs and technic of bronchoscopy in diagnosis and treatment.

EDWARD CLAY MITCHELL and JOHN J. SHEA: Normal and pathologic development of paranasal sinuses. See description under SECTION ON DISEASES OF CHILDREN.

The following motion pictures will be shown on a definite schedule to be announced later: GABRIEL TUCKER, Philadelphia, "Obstructive Dyspnea." LOUIS H. CLERF and T. A. SHALLOW, Philadelphia, "The Diagnosis and Treatment of Pharyngeal Diverticulum by the Combined One-Stage Method." EDWARD D. KING, Cincinnati, "Technique of Plastic Procedures on the Nose" and "Toti-Mosher Operation on the Lacrimal Passageways." HOWARD L. STITT, Cincinnati, "Bronchial Lavage." ARTHUR W. PROETZ, St. Louis, "The Displacement Methods of Sinus Diagnosis and Treatment." HENRY DINTENFASS, Philadelphia, "Radical Maxillary (Caldwell-Luc Operation) with Local Anesthesia" and "Catheterization of the Normal Ostium of the Maxillary Sinus Versus Inferior Meatal Puncture. Technique of Sounding the Accessory Sinuses of the Nose." SAMUEL IGLAUER and MORRIS GRUENEBAUM, Cincinnati, "Making Life Masks and Reproducing Anatomic Specimens by the Aid of Negocoll—A New Plastic Material." NORMAN LESHIN and THEODORE T. STONE, "Continuous Rhythmic Contractions of the Palate, Pharynx and Larynx." AMERICAN FEDERATION OF ORGANIZATIONS FOR HARD OF HEARING, "Examination and Conservation of Hearing." AUSTIN A. HAYDEN, Chicago, "Acute Mastoiditis," "Frontal Sinus External Drainage," and "Maxillary Sinus Caldwell-Luc Operation (Gas-Ether)." MERCER G. LYNCH, New Orleans, "Suspension Intubation," "Larynx and Radical Sinus Operations." WALTER THEOBALD, Chicago, "Maxillary Sinus Treatment Through the Natural Opening." ROBERT HOWARD, Cincinnati, "Retropharyngeal Abscess."

Section on Diseases of Children

The exhibit sponsored by the Section on Diseases of Children includes (*a*) therapeutic procedures; (*b*) diet in pediatric practice; (*c*) selected exhibits of educational and research character. The committee in charge is composed of A. GRAEME Mitchell, Cincinnati; Robert A. Strong, New Orleans, and F. Thomas Mitchell, chairman, Memphis.

WILLIAM WILLIS ANDERSON, Atlanta, Ga.: Clinical conditions in children. Exhibit of photographs showing foreign bodies, congenital deformities, Perthe's disease, rickets, achondroplasia, osteogenesis imperfecta, and other conditions in children.

C. C. McLEAN, Birmingham, Ala.: Incidence of respiratory infections during first five years of life. Exhibit of tables and graphic charts analyzing a large number of respiratory infections in children showing evidence of a periodic recurrent disease.

FRANK C. NEFF, D. N. MEDEARIS and MARGARET ANDERSON, Department of Pediatrics, University of Kansas School of Medicine, Kansas City, Kan.: The new-born. Exhibit of photographs, charts, moulages and pathologic specimens obtained from the care of infants in the nursery for the new-born; charts showing weight and feeding progress during the newly born period; methods of keeping records, photographs of plan of nursery, methods of caring for infants, wax modeling of normal and malformed areas of the infant body as well as peculiarities of interest in infants of this age; pathologic specimens of malformations in the heart of the new-born.

ERNST WOLFF, Pediatric Department, University of California, and Mount Zion Hospital, San Francisco: Tuberculin ointment patch test. Exhibit of pictures illustrating technic; demonstration of tuberculin ointment and ointment control; water colors showing various degrees of reaction; statistical charts.

W. AMBROSE MCGEE, St. Elizabeth's Hospital, Richmond, Va.: Value of the Schilling differential blood count in pediatrics. Exhibit of charts showing (1) derivation of leukocytes and significance of changes in white blood cells in infections; (2) description of leukocytes in the Schilling differential classification when stained with Giemsa's stain; (3) variation of differential blood counts in infancy and childhood and significance of percentages of shift to the left; (4) usual results of blood examination in acute, subacute and chronic infections and in convalescence; (5) cases illustrating differential blood counts in many common pediatric infections; (6) summary of value of the Schilling differential blood count in infections in infancy and childhood.

ABRAHAM LEVINSON, Chicago: Cerebrospinal fluid in health and in disease. Exhibit consisting of (1) books and reprints on cerebrospinal fluid from Cotugno to the present day; (2) chemical and physicochemical studies of the fluid; (3) comparative studies of blood and of lumbar and cistern fluid in children; (4) cerebrospinal fluid changes in various conditions; (5) slides illustrating various phases of the subject. The exhibit is designed to show the most recent investigations on cerebrospinal fluid.

L. A. LURIE, J. VICTOR GREENBAUM and E. A. NORTH, Psychopathic Institute of the Jewish Hospital of Cincinnati and Psychiatric Department of University of Cincinnati, Cincinnati: Behavior disorders of children. Exhibit of photographs, charts, tables, case histories and publications describing the Psychopathic Institute, the methods of study of behavior disorders of children with classification of causative factors; methods of treatment and disposition of cases studied to date.

M. HINES ROBERTS, Emory University, Atlanta, Ga.: Studies in congenital syphilis. Exhibit consisting of a statistical study of a large number of infants born of syphilitic mothers, followed for periods varying from a few months to five years. Positive physical conditions found are shown and the ages at which they appear; a study is shown of the ultimate outcome of such cases and an effort is made to evaluate prenatal therapy.

M. G. PETERMAN, Marquette University Medical School, Milwaukee: Convulsions in childhood. Two motion pictures entitled "Convulsions in Infancy and Childhood" and "The More Common Dystrophies in Childhood." Charts, graphs and photographs of interesting cases.

RICHARD D. DEAN and J. A. MCINTOSH, University of Tennessee, Memphis: Skin and oral lesions. Exhibit of photographs showing the lesions and etiologic agents of some common skin and oral diseases with associated systemic involvement, such as pellagra, Vincent's angina and noma.

F. THOMAS MITCHELL, Department of Pediatrics, University of Tennessee, and S. W. COLEY, Department of Roentgenology, Methodist Hospital, Memphis: Study in the prevention of rickets. Exhibit of prints of patients observed from birth to 2 years of age for evidence of rickets. Serial roentgenologic studies at 3, 6, 12 and 24 months in all cases; charts showing observations and the influence of violet ray, sun baths, viosterol and cod liver oil.

EDWARD CLAY MITCHELL and JOHN J. SHEA, Medical Department, University of Tennessee, Memphis: Normal and pathologic development of the paranasal sinuses. Exhibit of reduced roentgenograms with descriptions of normal and pathologic development of the sinuses and the reestablishment of growth before puberty in sinuses that have been arrested in their growth.

EDWARD CLAY MITCHELL, Department of Pediatrics, University of Tennessee, Memphis: Malformations and diseases in children. Exhibit of clinical, gross and microscopic photographic records of interesting and unusual pediatric conditions.

R. E. SEMMES, Department of Pediatrics, University of Tennessee, Memphis: Intracranial conditions occurring in children. Exhibit of reduced roentgenograms of cases of brain tumor, cysts, oxycephaly, vascular lesions and head injuries.

CARROL C. TURNER, Department of Neurology, University of Tennessee, Memphis: Motion picture demonstration of neurologic motor phenomena in children.

CLIFFORD SWEET, Oakland, Calif.: Acute otitis media in children. Exhibit of charts showing results of treatment over a period of years; posters illustrating diagnostic criteria; methods of anesthesia, holding the child and after-care are illustrated.

SPECIAL EXHIBIT ON POLIOMYELITIS: See description under SPECIAL EXHIBITS.

ROE E. REMINGTON and HAROLD LEVINE: Experimental goiter. See description under SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH.

NATIONAL TUBERCULOSIS ASSOCIATION: Early tuberculous lesions in children. See description under EDUCATIONAL EXHIBITS.

Section on Orthopedic Surgery

The exhibit sponsored by the Section on Orthopedic Surgery includes various topics. The committee in charge consists of Paul N. Jepson, Philadelphia; J. T. O'Ferrall, New Orleans, and E. B. Mumford, chairman, Indianapolis.

HENRY W. MEYERDING and JOHN D. CAMP, Mayo Clinic, Rochester, Minn.: Clinical and roentgenologic evidence of spondylolisthesis. Exhibit consists of analysis of clinical and roentgenologic evidence in cases of spondylolisthesis as seen at Mayo Clinic and described various types of the lesion and surgical relief. Spondylolisthesis of the second and third, third and fourth, fourth and fifth lumbar vertebrae, and the fifth lumbar vertebra on the sacrum is shown with the grade of deformity.

VERNON L. HART, University Hospital, Ann Arbor, Mich.: Surgical treatment of joint tuberculosis. Exhibit of roentgenograms showing tuberculous joints before and after surgical fixation; photographs of patients; photomicrographs of biopsy material.

PAUL N. JEPSON, Philadelphia: Mobilization of joints. Postoperative care. Exhibit of roentgenograms before and after operation; photographs of patient before and after operation and motion pictures.

SPECIAL EXHIBIT ON POLIOMYELITIS: See description under SPECIAL EXHIBITS.

SPECIAL EXHIBIT ON PHYSICAL THERAPY: See description under SPECIAL EXHIBITS.

AMERICAN COMMITTEE FOR THE CONTROL OF RHEUMATISM: Chronic arthritis. See description under EDUCATIONAL EXHIBITS.

PHILIP B. MATZ: Studies on arthritis, cancer and manic-depressive psychosis. See description under PATHOLOGIC AND LABORATORY EXHIBITS.

Section on Preventive and Industrial Medicine and Public Health

The exhibits under the auspices of the Section on Preventive and Industrial Medicine and Public Health include a variety of topics on results of experimental and research work in the fields of preventive medicine and public health. The committee in charge is composed of Alice Hamilton, Boston; E. R. Hayhurst, Columbus, Ohio, and Paul A. Davis, chairman, Akron, Ohio.

HENRY F. VAUGHAN, Detroit Department of Health, Detroit: The physician as health worker. Exhibit of material that has been used in the Detroit plan of medical participation in the public health program.

WILSON G. SMILLIE, Department of Public Health Administration, Harvard School of Public Health, Boston: Three dimension graphs. Exhibit of five models of three dimension graphs showing the decline during a long period of years of typhoid, tuberculosis, diphtheria, scarlet fever and a correlation graph of influenza and pneumonia in various army camps.

FREDERICK R. TAYLOR, High Point, N. C.: Work of the Health Maintenance Bureau of North Carolina State Board of Health. Exhibit of charts showing analytic research based on health examinations conducted through the state of North Carolina during the years 1928-1929 in a campaign to interest the physicians of the state in making health examinations, to demonstrate the technic of such examinations and to get people of the state to go to their own physicians for such examinations.

AMERICAN SOCIAL HYGIENE ASSOCIATION, New York: Preventive medicine in relation to syphilis. Exhibits of charts, photographs, models and motion pictures illustrating scientific discoveries that make accurate diagnosis and treatment of syphilis of practical value in preventive medicine. Data and illustrative material on the opportunity and responsibility of the general practitioner in this field.

CHARLES E. BILLS and FRANCIS G. MCDONALD, Mead Johnson Research Laboratory, Evansville, Ind.: Crystallization of vitamin D. Exhibit consisting of the apparatus devised for the irradiation of ergosterol and the manipulative steps for the conversion of the "vitamin D resin" into crystalline vitamin D.

J. N. BAKER, Alabama State Board of Health, Montgomery, Ala.: Malaria control activities. Exhibit of charts, photographs and motion pictures illustrating malaria control activities of the Alabama State Board of Health.

ROE E. REMINGTON and HAROLD LEVINE, Medical College of South Carolina, Charleston, S. C.: Experimental goiter. Exhibit showing the development of a standard dietary technic for production of goiter in the rat; gross and microscopic appearance of the thyroid, its size, moisture and iodine content in comparison with normal rats; also determination of minimal iodine requirement of the rat.

ERNEST CARROLL FAUST, Department of Tropical Medicine, Tulane University Medical School, New Orleans: Human helminth infections. Exhibit showing some of the more important human worm diseases, including biology, life history, pathology, symptomatology, treatment and prevention, using models, drawings, photographs, maps, actual specimens and pathologic tissues together with standard drugs.

AMERICAN SOCIAL HYGIENE ASSOCIATION: Unscientific treatment of sexual disorders. See description under EDUCATIONAL EXHIBITS.

HERBERT A. WILDMAN: Epidemic gastro-enteritis and its relation to influenza. See description under SECTION ON PRACTICE OF MEDICINE.

C. C. MCLEAN: Incidence of respiratory infections during first five years of life. See description under SECTION ON DISEASES OF CHILDREN.

M. HINES ROBERTS: Studies in congenital syphilis. See description under SECTION ON DISEASES OF CHILDREN.

F. THOMAS MITCHELL and S. W. COLEY: Study in the prevention of rickets. See description under SECTION ON DISEASES OF CHILDREN.

SPECIAL EXHIBIT ON POLIOMYELITIS: See description under SPECIAL EXHIBITS.

O. E. DENNEY: Leprosy. See description under PATHOLOGY AND LABORATORY EXHIBITS.

G. A. WHEELER and W. H. SEBRELL: Pellagra. See description under PATHOLOGY AND LABORATORY EXHIBITS.

BUREAU OF ANIMAL INDUSTRY: Tuberculosis in live stock. See description under EDUCATIONAL EXHIBITS.

BUREAU OF ENTOMOLOGY: Insects of medical importance. See description under EDUCATIONAL EXHIBITS.

LOUIS I. DUBLIN: Mortality in tuberculosis, influenza and peptic ulcer. See description under EDUCATIONAL EXHIBITS.

Section on Gastro-Enterology and Proctology

The exhibits under the auspices of the Section on Gastro-Enterology and Proctology include collections of rare classics and different types of instruments, demonstrations of laboratory methods and various other topics. The committee in charge is composed of Curtice Rosser, Dallas, Texas; F. D. Gorham, St. Louis, and A. H. Aaron, chairman, Buffalo.

CURTICE ROSSER, LEWIS WATERS and STUART A. WALLACE, Department of Medicine, Baylor University, Dallas, Texas: Experimental elaionomas of the rectum. Exhibit of illuminated colored reproductions of microscopic sections taken from tumors experimentally produced in the human rectum by injection of vegetable oil and liquid petrolatum, alone and in combination with phenol; roentgenograms showing typical chemical strictures from oil tumor formation.

HENRY A. RAFSKY, The Max Einhorn Gastro-Enterological Clinic of the Lenox Hill Hospital, New York: Diagnostic importance of biliary crystals in duodenal contents. Photomicrographs showing diagnostic value of examination of duodenal contents as aid in detection of disease of the biliary tract.

FRANK SMITHIES, Chicago: Medical books, instruments; methods of gastro-enterologic procedure. Exhibit of (1) medical classics, including original publications of Beaumont and others; (2) stomach tubes, duodenal tubes, esophageal dilator (pneumatic) with motion picture demonstration of use on patient; (3) physiologic method of appraisal and management of intestinal stasis; (4) treatment of peptic ulcer with mucin; (5) comparative secretory returns from various test meals.

MARTIN G. VORHAUS, Hospital for Joint Diseases, New York: The histamine test in gastric disease. Exhibit consisting of a number of charts demonstrating the gastric secretory response to histamine in a large series of gastric and allied diseases. Emphasis is given to cases of achylia; charts demonstrate technic, indications, dangers and preparations used.

JOHN A. KILLIAN, New York Post-Graduate Medical School, New York: Gastric and duodenal analyses. Exhibit demonstrating the need and practical value of standardized biochemical methods of determination of gastric function and of pancreatic and gallbladder functions in human subjects by exhibition of methods and charts of results.

SARA M. JORDAN, EVERETT D. KIEFER, S. ALLEN WILKINSON and N. ALFRED HILL, Department of Gastro-Enterology, Lahey Clinic, Boston: Diagnosis of disease of the colon. Exhibit of diagnostic data in drawings, charts, pathologic specimens and paintings to illustrate factors in the diagnosis of diseases of the colon.

F. W. RANKIN, J. deJ. PEMBERTON, C. F. DIXON and A. S. GRAHAM: Surgery of the colon and rectum. See description under MAYO CLINIC AND MAYO FOUNDATION GROUP.

A. W. ADSON, J. R. LEARMONTH, E. S. JUDD and F. W. RANKIN: Sympathetic neurectomy for Hirschsprung's disease. See description under MAYO CLINIC AND MAYO FOUNDATION GROUP.

P. W. BROWN and H. M. WEBER: Diagnosis and medical treatment of the colon and rectum. See description under MAYO CLINIC AND MAYO FOUNDATION GROUP.

H. M. WEBER: Polyposis and polypoid lesions of the colon. See description under MAYO CLINIC AND MAYO FOUNDATION GROUP.

LOUIS A. BUIE: Proctology, diagnosis and surgery. See description under MAYO CLINIC AND MAYO FOUNDATION GROUP.

LOUIS I. DUBLIN: Mortality data on tuberculosis, influenza and peptic ulcer. See description under EDUCATIONAL EXHIBITS.

Section on Radiology

The exhibit sponsored by the Section on Radiology covers a variety of subjects. In addition to the section exhibit there will be found a number of other radiologic exhibits on different subjects, sponsored by other sections. The committee in charge for the Section on Radiology is composed of Amédée Granger, New Orleans; Ernest C. Samuel, New Orleans, and Charles L. Martin, chairman, Dallas.

JOHN D. CAMP, Mayo Clinic, Rochester, Minn.: Roentgenologic study of the osseous changes in hyperparathyroidism. Exhibit consists of a large number of roentgenograms depicting various bone changes found in cases of hyperparathyroidism. The progression of these changes during the disease and the regression following the removal of parathyroid tumors will be shown, with especial attention to characteristic roentgenographic observations permitting a diagnosis of hyperparathyroidism.

CHARLES L. MARTIN and JAMES M. MARTIN, Baylor University Hospital, Dallas, Texas: Prolonged small radium needle therapy. Exhibit of drawings and photographs showing technic and results of use of small heavily filtered radium needles used in treatment of many forms of cancer.

EDGAR C. BAKER and J. S. LEWIS, JR., Youngstown Hospital Association, Youngstown, Ohio: Urograms of obstructive pathologic conditions. Exhibit of reduced transparencies illustrating cases of obstructions by stone, new growth, pregnancies and gynecologic conditions; roentgenograms showing the presence of acute hydronephrosis with stone, with prompt return to normal following passage of calculus; relationship between gynecologic conditions and recurring pyelitis; a probable explanation for the preponderance of right sided dilatation in pregnancy.

A. JEROME THOMAS, Shreveport, La.: Researches on the embryo and pregnancy by radiologic experiments. Exhibits including research work to determine the early diagnostic markings of pregnancy, nonpregnant models and postoperative or aborted specimens being used. Intravenous urography in various stages of pregnancy in women and rabbits, as a differential diagnostic test between extra-uterine and intra-uterine pregnancy, as a confirmatory test of early pregnancy prior to the fourteenth week. Demonstration of the efficiency of intravenous urography in differentiating abdominal lesions complicating pregnancy, also its value in determining the functional condition of the kidneys. Researches on the osteology of the embryo and fetus showing that the age should not be predicted by the size and weight but by the visualization of the bony markings.

AMÉDÉE GRANGER, Department of Radiology, Louisiana State University Medical Center, New Orleans: Skeletal changes in advanced cases of bone disease. Exhibit of roentgenograms of head and part of neck, of chest and dorsal spine, of pelvis, hips and part of lumbar spine, and of the thighs or legs or parts of both of each case presented, showing the advantage of demonstrating the comparative freedom of certain portions of the skeleton from involvement in different bone diseases, besides showing the extensive skeletal changes in the more advanced examples of these diseases.

FRED O. COE and L. S. OTELL, Laboratories of Drs. Groover, Christie and Merritt, and Georgetown University Hospital, Washington, D. C.: Hepatosplenography. Exhibit of roentgenograms showing liver and spleen following injection of thorium dioxide contrast medium.

C. J. TRIPOLI, E. HAAM and E. B. LEHMANN, Charity Hospital, New Orleans: Roentgenographic visualization of liver and spleen by means of thorium dioxide. Exhibit of roentgenograms of lower part of chest and of the abdomen visualizing liver and spleen by means of intravenous administration of stabilized colloidal suspensions of thorium dioxide; normal organs as well as pathologic lesions of these organs.

EDUCATIONAL CLASSIFICATION

Government and National Organization

AMERICAN HEART ASSOCIATION, New York: Arteriosclerotic heart disease. Exhibit of charts showing incidence, anatomy of coronary arteries, pathology, clinical manifestations,

electrocardiographic and roentgenographic observations, diagnosis and prognosis of arteriosclerotic heart disease.

Material for this exhibit is being contributed by the following cardiologists:

A. R. BARNES, Rochester, Minn.; RIGNEY D'AUNOY, New Orleans; CHARLES WARREN DUVAL, New Orleans; HAROLD FEIL and CHARLES S. HIGLEY, Cleveland; W. N. FOWLER and H. W. RATHE, Iowa City; H. W. RATHE and W. D. PAUL, Iowa City; BERNARD SAMUELS, New York; OTTO SAPHIR, Chicago; MERRITT B. WHITTEN, Dallas, Texas; FREDERICK A. WILLIUS, Rochester, Minn.; CHARLES C. WOLFERTH and FRANCIS CLARK WOOD, Philadelphia; JOHN WYCKOFF and CLAIRE LINGG, New York.

AMERICAN SOCIETY FOR THE CONTROL OF CANCER, New York: Cancer of the breast. Exhibit of charts on cancer mortality and death rates by states; development of methods of diagnosis and treatment; statistics of cancer of the breast with special reference to effect of early treatment on five-year survivals and literature. Contributions to this exhibit will be made as follows: (1) original sections of Sir Lenthal Cheatle, London, England, of microscopic sections of whole breasts showing normal and cancerous tissue, shown by Max Cutler, Chicago; (2) photographs and wax models of breast cancer, shown by Burton J. Lee, New York; (3) photographs and ink drawings of breast cancer, shown by J. Shelton Horsley, Jr., Richmond, Va.; (4) benign and malignant lesions of breast with statistics on percentage of recurrence, shown by C. W. Duval, New Orleans; (5) benign and malignant lesions of breast with photomicrographs of lesion and photograph of patient; also set of educational, automatically projected pictures, illustrating various types of breast lesions, shown by R. H. Fike, Atlanta, Ga.; (6) malignant breast tissue with photomicrographic and case histories, shown by Rigney D'Aunoy, New Orleans.

UNITED STATES DEPARTMENT OF AGRICULTURE, Washington, D. C.: BUREAU OF ENTOMOLOGY: Some insects of medical importance—myiasis and sandflies. Exhibit showing beneficial and destructive types of myiasis (infestations by fly larvae) with especial attention to methods of producing sterile fly larvae for treatment of osteomyelitis and other diseases. Breeding places, effects of bites and possibilities of disease transmission by sandflies.

BUREAU OF ANIMAL INDUSTRY: Tuberculosis in live stock. Exhibit illustrating pictorially and by actual specimens lesions of tuberculosis in organs and glands of various classes of live stock; charts showing extent of disease in the United States and progress being made in eradication work.

AMERICAN COMMITTEE FOR THE CONTROL OF RHEUMATISM: Chronic rheumatism or arthritis. Exhibit of placards illustrating importance of disease economically, socially and medically; roentgenograms, lantern slides, illustrating differences of two main types; plaster casts, anatomic specimens, photographs, illustrating certain physiologic disturbances and clinical manifestations of the disease; placards giving prodromal symptoms of arthritis and outline of factors influencing the onset and recovery from chronic arthritis. Demonstrations in the exhibit will be in charge of the following group: CHARLES C. BASS, New Orleans; RUSSELL L. CECIL, New York; A. A. FLETCHER, Toronto; RUSSELL L. HADEN, Cleveland; P. S. HENCH, Rochester, Minn.; MELVIN S. HENDERSON, Rochester, Minn.; JOSEPH L. MILLER, Chicago; GEORGE R. MINOT, Boston; J. ARCHER O'REILLY, St. Louis; ROBERT B. OSGOOD, Boston; RALPH PEMBERTON, Philadelphia; CYRUS C. STURGIS, Ann Arbor, Mich., and HANS ZINSSER, Boston.

AMERICAN SOCIAL HYGIENE ASSOCIATION, New York: Unscientific treatment of venereal diseases and "sexual disorders." Exhibit of photographs, literature, actual pharmaceutic preparations and charts based on recent investigation illustrating the treatment of sexual disorders by correspondence, by magic and with nostrums.

UNITED STATES PHARMACOPEIAL CONVENTION, Washington, D. C.: Exhibit consisting of historical material connected with past revisions of the United States Pharmacopeia with a display of pharmacopeial drugs and preparations embodying the official products. A small pamphlet will be distributed suggesting the use of U. S. P. titles and products in prescription writing rather than "specialties" and controlled medicines.

AMERICAN PHARMACEUTICAL ASSOCIATION, Baltimore: National Formulary Revision Committee: Exhibit consisting of some N. F. vehicles and preparations used in prescription practice.

NATIONAL TUBERCULOSIS ASSOCIATION, New York: Paper roentgen-ray films of chests. Exhibit shows two series of roentgen-ray films of children's chests, one series on paper films of a new type, the other of identical cases on the usual transparent film. Study is based on cases at the Bellevue-Yorkville Health Center of New York City.

LOUIS I. DUBLIN, Metropolitan Life Insurance Company, New York: Exhibit of charts showing new mortality data on tuberculosis, influenza and peptic ulcer.

AMERICAN LIBRARY ASSOCIATION, Chicago: Hospital library service. Exhibit showing the therapeutic value of reading; cases of carefully selected books and magazines for use in hospitals.

AMERICAN ASSOCIATION OF HOSPITAL SOCIAL WORKERS, Chicago: Medical Social work. Exhibit of charts and scientific reports on (1) functions of social worker in hospital; (2) education and content of courses offered medical social workers; (3) organization of medical social department in hospital and its relationship to other departments.

NATIONAL BOARD OF MEDICAL EXAMINERS, Philadelphia: Exhibit of charts describing the work and progress of the National Board of Medical Examiners.

AMERICAN HOSPITAL ASSOCIATION, Chicago: Library and service bureau. Exhibit consisting of statistical charts of hospital activities, demonstrations of methods of operation of various hospital departments, selection of texts and literature for administrative members of staff and heads of hospital divisions; package libraries covering important phases of hospital construction, equipment and management.

AMERICAN SOCIAL HYGIENE ASSOCIATION: Preventive medicine as applied to syphilis. See description under SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH.

NEW YORK STATE DEPARTMENT OF MENTAL HYGIENE: Mental diseases. See description under SECTION ON NERVOUS AND MENTAL DISEASES.

UNITED STATES PUBLIC HEALTH SERVICE: See description under PATHOLOGIC AND LABORATORY EXHIBITS.

AMERICAN MEDICAL ASSOCIATION

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS: (1) Reliable information about medical education, licensure, reciprocity, hospitals, postgraduate courses, accredited internships; (2) display of colored maps and charts showing data regarding progress of medical education and development of hospitals; (3) lists of medical colleges, hospitals, clinical pathologists and radiologists approved by the Council; (4) essentials and methods of approval, and other pamphlet publications on medical education and hospital service.

COUNCIL ON PHYSICAL THERAPY: Historical development of physical therapy, illustrated by means of picture charts and original sources demonstrating that physical therapy is not necessarily a new branch of medicine but has been a valuable adjunct to the practitioners for centuries; apparatus demonstrating the transmission efficiency of numerous ultraviolet transmitting glasses; information concerning the Handbook on Physical Therapy.

COMMITTEE ON FOODS: Posters showing membership of the Committee; its purpose; significance and meaning of acceptance, and requirements for specific foods.

BUREAU OF INVESTIGATION: Exhibit of (1) some of the educational posters on the nostrum evil and quackery prepared by the bureau for the use of physicians, health officials, schools and colleges; (2) some special posters prepared by the bureau; (3) pamphlets on the nostrum evil and quackery prepared and issued by the bureau for the purpose of furnishing information easily and inexpensively to the medical profession and the public; (4) the volume "Nostrums and Quackery" prepared and issued by the bureau.

BUREAU OF HEALTH AND PUBLIC INSTRUCTION: Exhibit of the educational activities of the medical profession in the

United States through the use of the radio in 1931. An illuminated spot-map graphically portraying broadcasts of health information by the profession according to three groupings: (*a*) occasional broadcasts sponsored by county, state or district medical society; (*b*) regular periodic broadcasts sponsored by county, state or district medical society; (*c*) chain broadcasts by the American Medical Association on a farm network. Accompanying the graphic exhibit there will be available lists of health talks which the American Medical Association has prepared to furnish to county, state or district medical societies, and bound volumes showing the pamphlet publications of the Bureau of Health and Public Instruction.

AMERICAN MEDICAL ASSOCIATION LIBRARY: An exhibit of package libraries including specimen packages on lung tumors, undulant fever, "jake" paralysis and other subjects. Information will be available concerning the services rendered by the library to physicians, such as the supplying of bibliographies, lending of periodicals, and miscellaneous reference work. The exhibit will also include the QUARTERLY CUMULATIVE INDEX MEDICUS.

COUNCIL ON PHARMACY AND CHEMISTRY: Posters and specimens illustrating the efforts of the Council in the interests of scientific medicine and rational prescribing. Typical examples of the Council's problems and some of the methods used in solving them are illustrated. A continuous film depicts the "Typical History of an N. N. R. Product" and an exposition of "The Rules of the Council."

AMERICAN MEDICAL ASSOCIATION CHEMICAL LABORATORY: Posters and specimens illustrating how the Association's laboratory helps the physician solve his problems concerning the chemical composition of new drugs and accurate dosage.

AWARDS

There will be two classes of awards, consisting each of (*a*) a gold medal, (*b*) a silver medal, (*c*) a bronze medal and (*d*) three certificates of merit.

NOTE. — The special (subsidized) exhibits (Poliomyelitis Exhibit, Cancer Exhibit and Physical Therapy Exhibit) and the exhibits of the headquarters of the American Medical Association are not open to awards.

CLASS I

Awards in class I are made for exhibits of individual investigations which are judged on basis of originality and excellence of presentation.

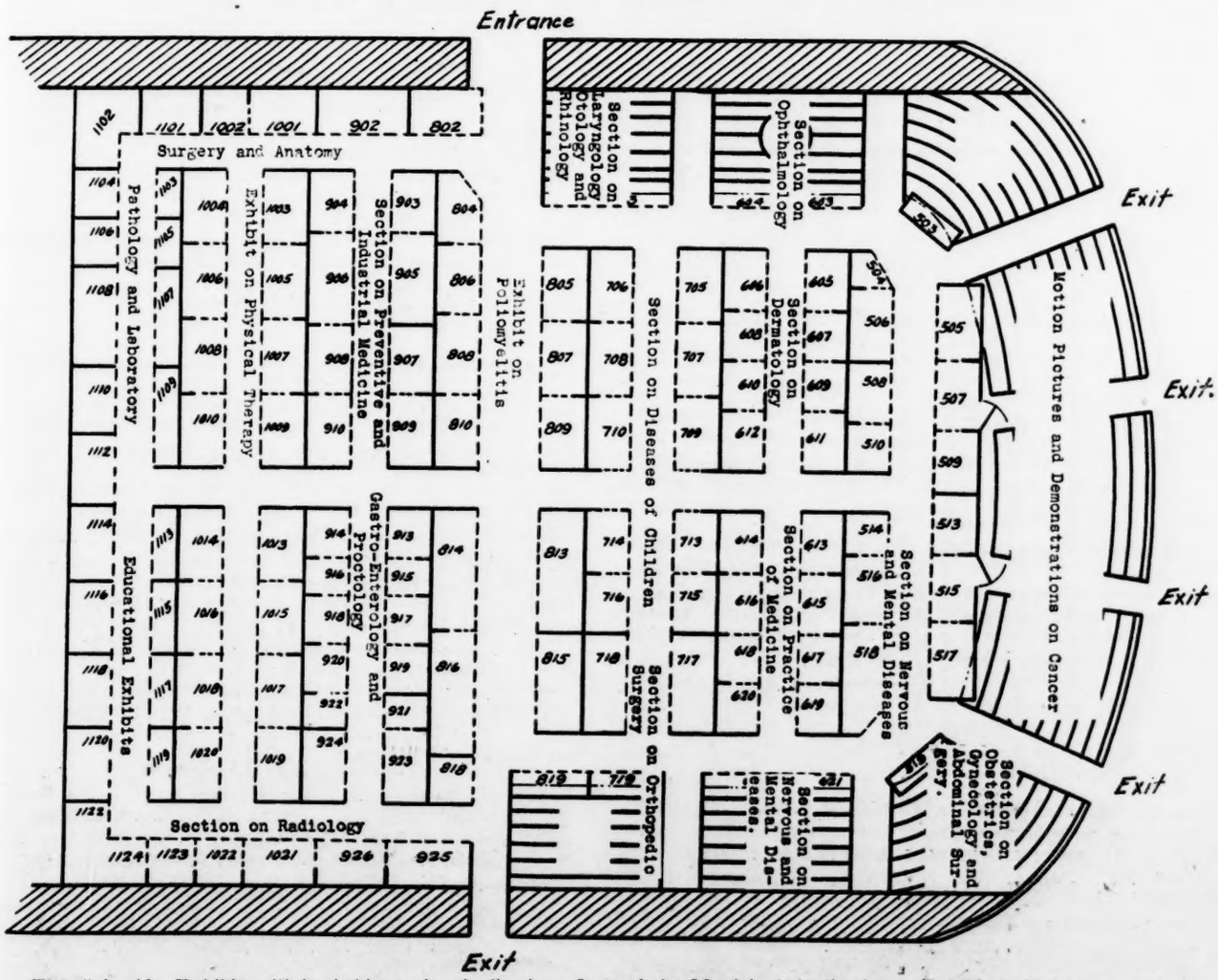
CLASS II

Awards in class II are made for exhibits which do not exemplify *purely experimental* studies, which are judged on the basis of the excellence of correlating facts and excellence of presentation.

Medals are awarded only to individuals. A special certificate of merit will be awarded to the best educational exhibit in the Educational Classification (this includes exhibits by national societies, etc.).

The jury on awards will be composed of five persons. It will make the decisions on Wednesday. The names of the jury will not be available until after the decisions have been published.

FLOOR PLAN OF THE SCIENTIFIC EXHIBIT — NEW ORLEANS SESSION



The Scientific Exhibit will be held on the Auditorium floor of the Municipal Auditorium. Exhibits will be shown in the center of the hall, while around the edges under the balcony the various sections will sponsor motion picture programs.

PRELIMINARY PROGRAM OF THE SCIENTIFIC ASSEMBLY

PROGRAM OF THE OPENING GENERAL MEETING

Concert Hall, Municipal Auditorium, Tuesday, May 10, 8 p. m.

Music.

Call to Order by the President, E. STARR JUDD.

Invocation. RABBI LOUIS BINSTOCK, Temple Sinai Congregation.

Address. HON. O. K. ALLEN, Governor-Elect of Louisiana.

Address. HON. T. S. WALMSLEY, Mayor of New Orleans.

Address of Welcome. ROY B. HARRISON, President, Louisiana State Medical Society.

Address of Welcome. JOHN A. LANFORD, President, Orleans Parish Medical Society.

Announcements. WILLIAM H. SEEMANN, Chairman, Local Committee on Arrangements.

Music.

Introduction and Installation of PRESIDENT-ELECT EDWARD H. CARY, Dallas, Texas.

Address. EDWARD H. CARY.

Presentation of Medal to Retiring President, E. STARR JUDD. E. B. HECKEL, Chairman of the Board of Trustees.

Music.

THE PROGRAMS OF THE SECTIONS

Outline of the Scientific Proceedings—The Preliminary Program and the Official Program

The following papers are announced to be read before the various sections. The order here is not necessarily the order that will be followed in the Official Program, nor is the list complete. The Official Program will be similar to the programs issued in previous years and will contain the final program of each section with abstracts of the papers, as well as lists of committees, program of the Opening General Meeting, list of entertainments, map of New Orleans, and other information. To prevent misunderstandings and protect the interest of advertisers, it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each Fellow on registration.

SECTION ON PRACTICE OF MEDICINE

MEETS IN CONCERT HALL, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—G. GILL RICHARDS, Salt Lake City.
Vice Chairman—A. F. JENNINGS, Detroit.
Secretary—REGINALD FITZ, Boston.
Executive Committee—ERNEST E. IRONS, Chicago; L. W. GORHAM, Albany, N. Y.; G. GILL RICHARDS, Salt Lake City.

Wednesday, May 11—2 p. m.

The Type of Onset of Acute Rheumatic Fever as Seen in New York City. HARLOW BROOKS, New York.

Typhus-Rocky Mountain Spotted Fever Group: Developments in Epidemiology and Clinical Considerations (Lantern Demonstration). A. S. RUMREICH, Washington, D. C.

The Frank Billings Lecture. WILLIAM S. THAYER, Baltimore.

The Practical Value of Antipneumococcus, Antimeningococcus and Antistreptococcus Serums (Lantern Demonstration). AUGUSTUS B. WADSWORTH, Albany, N. Y.

Liver Extract Intramuscularly in Pernicious Anemia (Lantern Demonstration). H. M. CONNER, Rochester, Minn.

Thursday, May 12—2 p. m.

JOINT MEETING WITH SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

THE RELATION OF PRIVATE PRACTICE TO PREVENTIVE MEDICINE

The Doctor and Preventive Medicine. ROGER I. LEE, Boston.

Public Health and Organized Medicine. J. N. BAKER, Montgomery, Ala.

Discussion to be opened by W. S. LEATHERS, Nashville, Tenn., and FELIX J. UNDERWOOD, Jackson, Miss.

Relation of Private Practice to Preventive Medicine in Europe. G. F. BOUDREAU, Geneva, Switzerland.

Discussion to be opened by RAY LYMAN WILBUR, Washington, D. C.

Present-Day Trends of Private Practice in the United States. MORRIS FISHBEIN, Chicago.

Friday, May 13—2 p. m.

Election of Officers

Treatment of Coronary Thrombosis. EUGENE S. KILGORE, San Francisco.

The Mortality of Acute Appendicitis (Lantern Demonstration). JOHN O. BOWER, Philadelphia.

Chairman's Address. G. GILL RICHARDS, Salt Lake City.

Endemic Edema (Lantern Demonstration). JOHN B. YOUMANS, Nashville, Tenn.

Nontuberculous Respiratory Diseases. ALEXIUS M. FORSTER, Colorado Springs, Colo.

A Severe Bronchial Asthma Apparently Due to Fungus Spores Found in Maple Bark (Lantern Demonstration). JOHN W. TOWEY, Powers, Mich.; HENRY C. SWEANY, Chicago, and WILLIS H. HURON, Iron Mountain, Mich.

SECTION ON SURGERY, GENERAL AND ABDOMINAL

MEETS IN GYMNASIUM OF ELKS CLUB

OFFICERS OF SECTION

Chairman—HUBERT A. ROYSTER, Raleigh, N. C.
Vice Chairman—J. H. WOOLSEY, San Francisco.
Secretary—FRED W. RANKIN, Rochester, Minn.
Executive Committee—FRANK H. LAHEY, Boston; ALLEN B. KANAVEL, Chicago; HUBERT A. ROYSTER, Raleigh, N. C.

Wednesday, May 11—9 a. m.

Thoracoplasty and Phrenicectomy for Pulmonary Tuberculosis (Lantern Demonstration). ESLIE ASBURY and H. KENNON DUNHAM, Cincinnati.

Discussion to be opened by ALTON OCHSNER, New Orleans, and E. J. O'BRIEN, Detroit.

Acute Intestinal Obstruction Due to Mesenteric Defects Requiring Massive Resection (Lantern Demonstration). C. R. EDWARDS, Baltimore.

Discussion to be opened by OWEN H. WANGENSTEEN, Minneapolis, and E. D. MARTIN, New Orleans.

SYMPOSIUM ON TRAUMATIC AND INDUSTRIAL SURGERY

Some Problems of Administration in Industrial Surgery (Lantern Demonstration). LLOYD NOLAND, Birmingham, Ala.

The Surgeon's Responsibility in the Readjustment of the Injured (Lantern Demonstration). GROVER C. PENBERTHY, Detroit.

After-Care of the Injured (Lantern Demonstration). W. L. ESTES, JR., Bethlehem, Pa.

An Outline of the Treatment of Fractures by the General Surgeon (Lantern Demonstration). E. DUNBAR NEWELL, Chattanooga, Tenn.

Discussion on papers of DRS. NOLAND, PENBERTHY, ESTES and NEWELL to be opened by GEORGE A. HENDON, Louisville, Ky.; JOSEPH F. SMITH, Wausau, Wis.; WILLIS C. CAMPBELL, Memphis, Tenn.; WAYLAND MORRISON, Los Angeles, and MUIR BRADBURN, New Orleans.

Thursday, May 12—9 a. m.

Results of Treatment in Acute Appendicitis (Lantern Demonstration). FRANK K. BOLAND, Atlanta, Ga.

Discussion to be opened by J. C. A. GERSTER, New York, and JOHN O. BOWER, Philadelphia.

Thrombo-Angiitis Obliterans: Results of Sympathectomy (Lantern Demonstration). A. W. ADSON, Rochester, Minn.

Discussion to be opened by FRANK R. TEACHENOR, Kansas City, Mo., and EDGAR F. FINCHER, JR., Atlanta, Ga.

Chairman's Address: Surgical Vision. HUBERT A. ROYSTER, Raleigh, N. C.

Dehydration Attendant on Surgical Operations (Lantern Demonstration). FREDERICK A. COLLER, Ann Arbor, Mich.
Discussion to be opened by THOMAS G. ORR, Kansas City, Mo., and ISIDORE COHN, New Orleans.

A Study of the Late Results of Operations for Diseases of the Biliary Tract (Lantern Demonstration).
E. STARR JUDD, Rochester, Minn.

Conservative Treatment of Diseases of the Gallbladder (Lantern Demonstration). J. TATE MASON, Seattle.
Discussion on papers of DRS. JUDD and MASON to be opened by C. H. MAYO, Rochester, Minn.; DEAN LEWIS, Baltimore; R. L. PAYNE, Norfolk, Va., and R. L. SANDERS, Memphis, Tenn.

Friday, May 13—9 a. m.

Election of Officers

Surgical Attempts at Increasing Sugar Tolerance (Lantern Demonstration). GÉZA DE TAKÁTS, Chicago.
Discussion to be opened by JOSEPH A. DANNA, New Orleans, and J. SHIRLEY SWEENEY, Dallas, Texas.

Essential Factors in the Ideal Cleft Palate Operation (Lantern Demonstration). G. M. DORRANCE, Philadelphia.
Discussion to be opened by GORDON B. NEW, Rochester, Minn., and G. V. I. BROWN, Milwaukee.

Anterior Hemipylorosphincterectomy for Duodenal Ulcer and Pylorospasm: A Review of the Cases and Results (Lantern Demonstration).
DAMON B. PFEIFFER, Philadelphia.
Discussion to be opened by URBAN MAES, New Orleans, and NORMAN MCLEOD ALLEN, Detroit.

The Operative Treatment of Progressive Exophthalmos Following Thyroidectomy.
HOWARD C. NAFFZIGER and OTTIWELL WOOD JONES, San Francisco.

Hyperthyroidism in Children (Lantern Demonstration).
R. S. DINSMORE, Cleveland.

The Results of Surgery in the Treatment of Exophthalmic Goiter (Lantern Demonstration).
HOWARD M. CLUTE, Boston.
Discussion on papers of DRS. NAFFZIGER and JONES, DR. DINSMORE and DR. CLUTE to be opened by R. E. SEMMES, Memphis, Tenn.; E. R. ARN, Dayton, Ohio; DONALD GUTHRIE, Sayre, Pa.; R. M. HOWARD, Oklahoma City, and J. R. YUNG, Terre Haute, Ind.

SECTION ON OBSTETRICS, GYNECOLOGY AND ABDOMINAL SURGERY

MEETS IN GYMNASIUM OF ELKS CLUB

OFFICERS OF SECTION

Chairman—FRED L. ADAIR, Chicago.
Vice Chairman—P. BROOKE BLAND, Philadelphia.
Secretary—J. R. MCCORD, Atlanta, Ga.
Executive Committee—JAMES C. MASSON, Rochester, Minn.; EMIL NOVAK, Baltimore; FRED L. ADAIR, Chicago.

Wednesday, May 11—2 p. m.

Preconceptional and Prenatal Care.
PERCY W. TOOMBS, Memphis, Tenn.

The Management of Normal Labor (Lantern Demonstration).
ALFRED C. BECK, Brooklyn.

Preventable Invalidism Following Childbirth (Lantern Demonstration). J. C. LITZENBERG, Minneapolis.
Discussion on papers of DRS. TOOMBS, BECK and LITZENBERG to be opened by CALVIN R. HANNAH, Dallas, Texas.

The Difficulties and Dangers of Forceps Deliveries (Lantern Demonstration). EVERETT D. PLASS, Iowa City.

Breech Presentations and Their Delivery.
W. E. STUDDIFORD, New York.

Contraindications to Cesarean Section.
W. R. COOKE, Galveston, Texas.
Discussion on papers of DRS. PLASS, STUDDIFORD and COOKE to be opened by EDWARD L. KING, New Orleans, and EDWARD A. SCHUMANN, Philadelphia.

Thursday, May 12—2 p. m.

The Relationship of Respiratory Infections to Puerperal Infection (Lantern Demonstration).
JOHN T. WILLIAMS, Boston.
Discussion to be opened by PHILLIPS JOHN CARTER, New Orleans.

The Conservative Treatment of Eclampsia (Lantern Demonstration). C. B. UPSHAW, Atlanta, Ga.
Discussion to be opened by G. D. ROYSTON, St. Louis, and ROBERT A. ROSS, Durham, N. C.

Chairman's Address (Lantern Demonstration).
FRED L. ADAIR, Chicago.

The Prevention of Maternal Injury During Pregnancy and Labor from the Standpoint of the General Practitioner (Lantern Demonstration).
P. BROOKE BLAND, Philadelphia.
Discussion to be opened by J. L. BAER, Chicago.

The Technic of Spinal Anesthesia (Lantern Demonstration).
GEORGE D. HUFF, San Diego, Calif.
Discussion to be opened by FLOYD W. MCRAE, Atlanta, Ga.

The Kidney Function in Pregnancy (Lantern Demonstration).
JAMES C. JANNEY and ELIZABETH W. WALKER, Boston.
Discussion to be opened by ROBERT D. MUSSEY, Rochester, Minn.

The Toxemias of Pregnancy (Investigative) (Lantern Demonstration). A. W. ROWE, Boston.
Discussion to be opened by PAUL TITUS, Pittsburgh.

Friday, May 13—2 p. m.

Election of Officers

Vaginal Enterocele (Lantern Demonstration).
W. H. BUEERMANN, Portland, Ore.

Consideration of Prolapse, Cystocele, Rectocele and True Vaginal Hernia—Diagnosis and Treatment (Lantern Demonstration). JAMES C. MASSON, Rochester, Minn.
Discussion on papers of DRS. BUEERMANN and MASSON to be opened by LUCIUS E. BURCH, Nashville, Tenn., and HAROLD E. SIMON, Birmingham, Ala.

Adhesions of the Anterior Surface of the Liver (Lantern Demonstration). ARTHUR H. CURTIS, Chicago.
Discussion to be opened by WALTER T. DANNREUTHER, New York, and HILLIARD E. MILLER, New Orleans.

Cancer of the Cervix: A Review of 375 Cases.
T. E. JONES, Cleveland.
Discussion to be opened by W. P. HEALY, New York.

The Cause of Primary Dysmenorrhea, with Especial Reference to Hormonal Factors (Lantern Demonstration).
EMIL NOVAK and S. M. R. REYNOLDS, Baltimore.
Discussion to be opened by C. JEFF MILLER, New Orleans.

SECTION ON OPHTHALMOLOGY

MEETS ON ROOF GARDEN, JUNG HOTEL

OFFICERS OF SECTION

Chairman—HARRY FRIEDENWALD, Baltimore.
Vice Chairman—W. H. LUEDDE, St. Louis.
Secretary—PARKER HEATH, Detroit.
Executive Committee—T. B. HOLLOWAY, Philadelphia; GEORGE F. SUKER, Chicago; HARRY FRIEDENWALD, Baltimore.

Fellows are reminded that the meetings of the section will be called to order promptly on the hour scheduled for opening. The formal reading of the papers will be omitted, as reprints of the papers on the program have already been delivered to Fellows.

Each essayist will be given ten minutes in which to summarize the points in his paper and introduce the discussion (except in the case of five minute papers), and five minutes in which to close the discussion.

The Fellows appointed to open the discussion of any paper will be allowed ten minutes. Subsequent speakers will be limited to five minutes.

The papers and all discussions will be printed and bound, forming the Transactions of the Section on Ophthalmology for 1932. Copies of the Transactions may be obtained at $1.50 each, if subscriptions are sent to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 535 North Dearborn Street, Chicago, by June 1, as only enough copies are printed to cover subscriptions received to the time of going to press.

Fellows are requested to register in the section registration book at the entrance. The full name and complete postoffice address should be written plainly.

Wednesday, May 11—9 a. m.

Chairman's Address. HARRY FRIEDENWALD, Baltimore.

Resection for Strabismus (Lantern Demonstration). CONRAD BERENS, New York.
Discussion to be opened by LUTHER C. PETER, Philadelphia.

The Reaction Time of the Normal Pupil (Lantern Demonstration). HARRY S. GRADLE, Chicago.
Discussion to be opened by C. A. BAHN, New Orleans.

A Syndrome in Uveal Tuberculosis. WILLIAM C. FINNOFF, Denver.
Discussion to be opened by RALPH I. LLOYD, Brooklyn.

The Significance of Choroidal Hemorrhage (Lantern Demonstration). ARTHUR J. BEDELL, Albany, N. Y.
Discussion to be opened by FRANK E. BURCH, St. Paul.

The Relation of Certain Eye Diseases of Obscure Origin to Allergy. LLOYD MILLS and GEORGE MARTYN, Los Angeles.
Discussion to be opened by RICHARD W. WHITEHEAD, Denver.

Gyrate Atrophy of the Choroid and Retina (Fuchs) (Lantern Demonstration). HUNTER H. MCGUIRE, Winchester, Va.
Discussion to be opened by T. B. HOLLOWAY, Philadelphia.

Thursday, May 12—9 a. m.

Demonstration Session: Exhibition of New Instruments and Appliances

Angioid Streaks of the Choroid and Pseudoxanthoma Elasticum. GRADY E. CLAY, Atlanta, Ga.
Discussion to be opened by W. E. FRY, Philadelphia.

The Permeability of the Normal and Pathologic Lens System (A Preliminary Report) (Lantern Demonstration). SANFORD R. GIFFORD and JAMES E. LEBENSOHN, Chicago.
Discussion to be opened by D. T. VAIL, JR., Cincinnati.

The Use of Gold and Sodium Thiosulphate in the Treatment of Diseases of the Uveal Tract. W. L. BENEDICT, Rochester, Minn.
Discussion to be opened by GEORGE SLOCUM, Ann Arbor, Mich.

Monochromatic Aberration of Lenses and the Eye. EDWARD JACKSON, Denver.
Discussion to be opened by HENRY C. HADEN, Houston, Texas.

Metastatic Carcinoma of the Optic Disk (Lantern Demonstration). W. T. DAVIS, Washington, D. C.
Discussion to be opened by G. F. SUKER, Chicago.

Sarcoma of the Choroid: History of Six Cases Following Early Operation (Lantern Demonstration). HERBERT MOULTON and E. C. MOULTON, Fort Smith, Ark.
Discussion to be opened by MARY KNIGHT ASBURY, Cincinnati.

Uveal Pigment Hypersensitivity and Therapeusis. ALAN C. WOODS, Baltimore.
Discussion to be opened by ALBERT E. BULSON, Fort Wayne, Ind.

Friday, May 13—9 a. m.

Executive Session

Election of Officers

Inexpert Refraction. JOHN GREEN, JR., and CARL C. BEISBARTH, St. Louis.
Discussion to be opened by WILLIAM H. CRISP, Denver.

Asthenopia, a Psychoneurosis and a Medical Responsibility (Lantern Demonstration). C. W. RUTHERFORD, Iowa City.
Discussion to be opened by JOHN O. MCREYNOLDS, Dallas, Texas.

Further Report on the Relation of the Basal Metabolic Rate to Progressive Myopia (Lantern Demonstration). LOUIS BOTHMAN, Chicago.
Discussion to be opened by W. R. BUFFINGTON, New Orleans.

A Contribution to the Pathology of Retinitis Pigmentosa with Special Reference to the Phagocytic Activity of Müller's Fibers (Lantern Demonstration). JONAS FRIEDENWALD and EUGENE CHAN, Baltimore.
Discussion to be opened by F. HERBERT HAESSLER, Milwaukee.

Plastic Surgery of the Eyelids (Lantern Demonstration). VILRAY P. BLAIR, St. Louis.
Discussion to be opened by FERRIS SMITH, Grand Rapids.

SECTION ON LARYNGOLOGY, OTOLOGY AND RHINOLOGY

MEETS ON ROOF GARDEN, JUNG HOTEL

OFFICERS OF SECTION

Chairman—GABRIEL TUCKER, Philadelphia.
Vice Chairman—EUGENE R. LEWIS, Los Angeles.
Secretary—JOHN J. SHEA, Memphis, Tenn.
Executive Committee—ROBERT C. LYNCH, New Orleans; THOMAS E. CARMODY, Denver; GABRIEL TUCKER, Philadelphia.

Wednesday, May 11—2 p. m.

Chairman's Address (Lantern Demonstration). GABRIEL TUCKER, Philadelphia.

Tumors of the Lungs and Tracheobronchial Tree (Lantern Demonstration). CHEVALIER JACKSON and CHEVALIER L. JACKSON, Philadelphia.
Discussion to be opened by RICHMOND MCKINNEY, Memphis, Tenn.; JOSEPH C. BECK, Chicago, and THOMAS E. CARMODY, Denver.

Laboratory Investigations as an Aid in Otolaryngologic Diagnosis (Lantern Demonstration). L. W. DEAN, St. Louis.
Discussion to be opened by HARRIS P. MOSHER, Boston, and I. S. KAHN, San Antonio, Texas.

The Selection of Treatment in Carcinoma of the Larynx (Lantern Demonstration). GORDON B. NEW, Rochester, Minn.
Discussion to be opened by WILLIAM V. MULLIN, Cleveland, and SAMUEL IGLAUER, Cincinnati.

The Treatment of Carcinoma of the Bronchus with Radon Implantations and Diathermy. JOHN D. KERNAN, New York.
Discussion to be opened by F. E. LEJEUNE, New Orleans, and FREDERICK E. HASTY, Nashville, Tenn.

The Use of Radon Seeds in the Field of Otolaryngology and Endoscopy with Case Reports (Lantern Demonstration). M. F. ARBUCKLE, St. Louis.
Discussion to be opened by GEORGE TAQUINO, New Orleans.

Thursday, May 12—2 p. m.

Errors in Diagnosis of Chronic Sinusitis (Lantern Demonstration). S. R. SKILLERN, Philadelphia.
Discussion to be opened by W. P. WHERRY, Omaha; W. LIKELY SIMPSON, Memphis, Tenn., and GREGOR W. MCGREGOR, Toronto, Canada.

A Departure in the Management of Thrombophlebitis on Experimental Studies in the Dog. O. JASON DIXON, Kansas City, Mo.
Discussion to be opened by HAROLD L. KEARNEY, New Orleans, and GEORGE M. COATES, Philadelphia.

Some Studies in Middle Ear Infection (Lantern Demonstration). J. A. BABBITT, Philadelphia.
Discussion to be opened by J. RAYMOND HUME, New Orleans, and A. G. FORT, Atlanta, Ga.

Local Agents Which Increase Tissue Immunity in Sinus Mucosa. RALPH A. FENTON, Portland, Ore.
Discussion to be opened by ARTHUR W. PROETZ, St. Louis; FRANK J. NOVAK, JR., Chicago, and HUGH L. MCLAURIN, Dallas, Texas.

Biochemical Aspects of Nasal Sinus Problems (Lantern Demonstration). EUGENE R. LEWIS, Los Angeles.
Discussion to be opened by D. C. JARVIS, Barre, Vt., and PAUL R. NEMOURS, St. Louis.

Hygiene of Swimming (Motion Picture Demonstration). H. MARSHALL TAYLOR, Jacksonville, Fla.
Discussion to be opened by HARVEY B. SEARCY, Tuscaloosa, Ala., and HOMER DUPUY, New Orleans.

Friday, May 13—2 p. m.

Election of Officers

Disturbances of Olfaction (Lantern Demonstration). E. M. SEYDELL, Wichita, Kan.
Discussion to be opened by CLAUDE L. LA RUE, Shreveport, La.; GEORGE B. COLLIER, New Orleans, and WILLIAM D. GILL, San Antonio, Texas.

After-Care of the Radical Mastoid Operation (Lantern Demonstration). JOHN W. CARMACK, Indianapolis.
Discussion to be opened by CHARLES D. BLASSINGAME, Memphis, Tenn., and ROBIN HARRIS, Jackson, Miss.

Acute Suppurative Otitis Media in Infancy and Early Childhood. C. C. CODY, Houston, Texas.
Discussion to be opened by J. CALHOUN MCDOUGALL, Atlanta, Ga.; W. A. WAGNER, New Orleans, and BURT R. SHURLY, Detroit.

Electrocoagulation of Tonsils.
J. L. MYERS, Kansas City, Mo.
Discussion to be opened by C. K. LEWIS, Memphis, Tenn.; PHILIP BOEBINGER, New Orleans, and FREDERICK B. BALMER, Chicago.

A Clinical Study of Appendicitis Following Tonsillectomy.
MURDOCK S. EQUEN, Atlanta, Ga.
Discussion to be opened by CHARLES A. MCWILLIAMS, Gulfport, Miss., and S. S. EVANS, Memphis, Tenn.

SECTION ON DISEASES OF CHILDREN

MEETS IN CONCERT HALL, MUNICIPAL AUDITORIUM

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Vice Chairman—ROBERT A. STRONG, New Orleans.
Secretary—ALFRED A. WALKER, Birmingham, Ala.
Executive Committee—WILLIAM WESTON, Columbia, S. C.; C. A. ALDRICH, Winnetka, Ill.; JAY I. DURAND, Seattle.

Wednesday, May 11—9 a. m.

Chairman's Address: Progress in the Nutrition of Infants.
JAY I. DURAND, Seattle.

Conditioned Reflexes in Psychopathology of Childhood.
N. KRASNOGORSKI, Leningrad, U. S. S. R.

Treatment of Alimentary Toxicosis (Lantern Demonstration).
BÉLA SCHICK and SAMUEL KARELITZ, New York.
Discussion to be opened by HORTON R. CASPARIS, Nashville, Tenn.

Celiac Disease: Its Specific Treatment and Cure Without Nutritional Relapse (Lantern Demonstration).
SIDNEY V. HAAS, New York.

Prognosis of Tuberculosis in Infancy (Lantern Demonstration).
JAMES W. BRUCE, Louisville, Ky.

The Pediatrician's Responsibility in the Tuberculosis Problem (Lantern Demonstration).
HORTON R. CASPARIS, Nashville, Tenn.
Discussion on papers of DRS. BRUCE and CASPARIS to be opened by E. L. BISHOP, Nashville, Tenn.; ARMIN CARL REMBE, Seattle, and O. O. MILLER, Louisville, Ky.

Thursday, May 12—9 a. m.

Convulsions in Childhood (Motion Picture Demonstration).
M. G. PETERMAN, Milwaukee.
Discussion to be opened by HENRY J. GERSTENBERGER, Cleveland.

Pituitary Medication in the Treatment of Abnormal Mental and Physical Conditions of Childhood (Lantern Demonstration).
LOUIS A. LURIE and J. VICTOR GREENEBAUM, Cincinnati.

Intestinal Stasis in Children (Lantern Demonstration).
CHARLES G. KERLEY, New York.
Discussion to be opened by MAUD LOEBER, New Orleans, and W. A. MULHERIN, Augusta, Ga.

The Present Status of the Poliomyelitis Problem.
W. LLOYD AYCOCK, Boston.

The Ketogenic Diet in the Treatment of Pyuria in Childhood (Lantern Demonstration).
HENRY F. HELMHOLZ, Rochester, Minn.
Discussion to be opened by CLIFFORD G. GRULEE, Chicago.

The Influence of Various Milk Products and Processed Milk on Gastric Motility (Lantern Demonstration).
FRED W. SCHLUTZ and DOROTHY FETTER, Chicago.
Discussion to be opened by L. R. DEBUYS, New Orleans, and JESSE R. GERSTLEY, Chicago.

Friday, May 13—9 a. m.

Election of Officers

Studies in Congenital Syphilis (Lantern Demonstration).
M. HINES ROBERTS, Atlanta, Ga.

The Management of Hemorrhagic Problems in Infancy and Childhood (Lantern Demonstration).
I. NEWTON KUGELMASS, New York.
Discussion to be opened by HEYWORTH N. SANFORD, Chicago.

Sickle Cell Anemia (Lantern Demonstration).
WILLIAM W. ANDERSON, Atlanta, Ga., and ROBERT L. WARE, Philadelphia.
Discussion to be opened by GEORGE S. GRAHAM, Birmingham, Ala., and THOMAS B. COOLEY, Detroit.

Complemental Feeding in the New-Born: Its Effect on Breast Feeding (Lantern Demonstration).
HUGH L. DWYER and FRANK C. NEFF, Kansas City, Mo.

A Study in the Prevention of Rickets (Lantern Demonstration).
F. THOMAS MITCHELL and STEPHEN W. COLEY, Memphis, Tenn.
Discussion to be opened by CHARLES J. BLOOM, New Orleans, and WILLIAM WESTON, Columbia, S. C.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

MEETS IN SOUTH ASSEMBLY HALL, MUNICIPAL AUDITORIUM

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Executive Committee—C. W. EDMUNDS, Ann Arbor, Mich.; R. M. WILDER, Rochester, Minn.; R. L. LEVY, New York.

Wednesday, May 11—9 a. m.

Some Studies of Diuresis in Patients with Congestive Heart Failure (Lantern Demonstration).
GEORGE R. HERRMANN, C. T. STONE, W. W. BONDURANT and E. H. SCHWAB, Galveston, Texas.

Myocarditis in Rabbits Produced Experimentally by Drugs (Lantern Demonstration).
CHARLES M. GRUBER and ISAAC Y. OLCH, St. Louis.

The Effect of Potassium Salt Administration on Certain Cardiac Arrhythmias (Lantern Demonstration).
JOHN J. SAMPSON, San Francisco, and EVELYN M. ANDERSON, Montreal, Canada.

The Effect of Digitalis in Cardiac Arrhythmias Other than Flutter and Fibrillation of the Auricles (Lantern Demonstration). CHARLES W. BARRIER, Fort Worth, Texas.

A Clinical Sign of Right Bundle Branch Block, with Remarks on the Disturbance of the Mechanism, the Results and Treatment (Lantern Demonstration).
STEWART R. ROBERTS, Atlanta, Ga.

The Principles of Treatment in Common Arterial Diseases of the Extremities (Lantern Demonstration).
W. J. MERLE SCOTT and JOHN J. MORTON, Rochester, N. Y.

Thursday, May 12—9 a. m.

Efficacy of Quinidine in Malaria.
J. P. SANDERS, Caspiana, La., and W. T. DAWSON, Galveston, Texas.

Some Theoretical and Practical Considerations on the Use of Anthelmintics (Lantern Demonstration).
PAUL D. LAMSON, CHARLOTTE B. WARD and HAROLD W. BROWN, Nashville, Tenn.

Principles and Practices in Anthelmintic Medication.
MAURICE C. HALL, Washington, D. C.

Chairman's Address: Therapeutics and Medicine.
R. L. LEVY, New York.

The Diet in Bright's Disease.
J. S. MCLESTER, Birmingham, Ala.

Some Therapeutic Uses of Cortin (Lantern Demonstration).
FRANK A. HARTMAN, CLAYTON W. GREENE, BYRON D. BOWEN and GEORGE W. THORN, Buffalo.

Friday, May 13—9 a. m.

Election of Officers

Ten Years' Study and Follow Up of Cases of Hyperthyroidism Showing Carbohydrate Metabolism Disturbances (Lantern Demonstration). HENRY J. JOHN, Cleveland.

Bismuth and the Treatment of Cardiovascular Syphilis (Lantern Demonstration).
L. MINOR BLACKFORD, Atlanta, Ga.

SYMPOSIUM ON ANESTHESIA

Advances in Anesthesia from the Standpoint of the Surgeon.
FRANK H. LAHEY, Boston.

Modern Theories of Narcosis.
V. E. HENDERSON, Toronto, Canada.

Respiratory and Circulatory Changes During Spinal Anesthesia (Lantern Demonstration).
M. H. SEEVERS and RALPH WATERS, Madison, Wis.

Advances in Anesthesia from the Standpoint of the Anesthetist (Lantern Demonstration).
JOHN S. LUNDY, Rochester, Minn.

SECTION ON PATHOLOGY AND PHYSIOLOGY

MEETS IN SOUTH ASSEMBLY HALL, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

Chairman—J. H. Black, Dallas, Texas.
Vice Chairman—YANDELL HENDERSON, New Haven, Conn.
Secretary—J. J. MOORE, Chicago.
Executive Committee—A. H. SANFORD, Rochester, Minn.; A. C. IVY, Chicago; J. H. BLACK, Dallas, Texas.

Wednesday, May 11—2 p. m.

Hemophilia (Lantern Demonstration).
CARROLL L. BIRCH, Chicago.

Granulopenia and Agranulocytic Angina (Lantern Demonstration). HENRY N. HARKINS, Chicago.

Simple Achlorhydric Anemia (Lantern Demonstration).
RUSSELL L. HADEN, Cleveland.

Relation of "Chronic Mastitis" to Cancer of the Breast.
MAX CUTLER, Chicago.

Tumors of Breast. CHARLES F. GESCHICKTER, Baltimore.

Carcinoma in Situ Contrasted with Benign Penetrating Epithelium (Lantern Demonstration).
ALBERT C. BRODERS, Rochester, Minn.

Carcinoma of the Duodenum: Clinical and Pathologic Aspects.
JOHN G. MATEER and F. W. HARTMAN, Detroit.

Thursday, May 12—2 p. m.

SYMPOSIUM ON POLIOMYELITIS

Immunity to Poliomyelitis: The Mechanism of Its Production in the General Population (Lantern Demonstration).
S. D. KRAMER, Boston.

Etiology and Pathology (Lantern Demonstration).
HAROLD L. AMOSS, Durham, N. C.

Diagnosis Before Paralysis. J. E. GORDON, Detroit.

The Therapeutic Use of Antipoliomyelitis Serum in Preparalytic Cases of Poliomyelitis (Lantern Demonstration).
WILLIAM H. PARK, New York.

Paralytic Treatment (Lantern Demonstration).
ARTHUR T. LEGG, Boston.

Discussion on papers of DRS. KRAMER, AMOSS, GORDON, PARK and LEGG to be opened by W. LLOYD AYCOCK, Boston; E. B. SHAW, San Francisco, and R. A. STRONG, New Orleans.

Friday, May 13—2 p. m.

Election of Officers

Chairman's Address. J. H. BLACK, Dallas, Texas.

Practical Value of the Cytologic Examination of the Nasal Smear in the Differential Diagnosis Between Allergy and Infection (Lantern Demonstration).
I. S. KAHN and B. F. STOUT, San Antonio, Texas.

Pathology and Symptomatology of Headaches Due to Specific Sensitization (Lantern Demonstration).
RAY M. BALYEAT and HERBERT J. RINKEL, Oklahoma City.

Sustained Artificial Fever in the Treatment of Intractable Asthma: Physiologic and Therapeutic Consideration (Lantern Demonstration).
SAMUEL M. FEINBERG, Chicago.

Pathologic Physiology Caused by Heat and Sensitiveness and Cold Sensitiveness.
W. W. DUKE, Kansas City, Mo.

Tissue Substrate Micro Culture for Tubercle Bacilli (Lantern Demonstration). HARRY J. CORPER, Denver.

The Clinical Partition of Blood Protein by Scopometry (Lantern Demonstration).
WILLIAM G. EXTON and ANTON R. ROSE, Newark, N. J.

SECTION ON NERVOUS AND MENTAL DISEASES

MEETS IN MONTELEONE HOTEL

OFFICERS OF SECTION

Chairman—FRANKLIN G. EBAUGH, Denver.
Vice Chairman—D. C. WILSON, University, Va.
Secretary—HENRY W. WOLTMAN, Rochester, Minn.
Executive Committee—GEORGE W. HALL, Chicago; WALTER FREEMAN, Washington, D. C.; FRANKLIN G. EBAUGH, Denver.

Wednesday, May 11—9 a. m.

Forensic Psychiatry: Review of the Procedure in Colorado (Lantern Demonstration).
GEORGE S. JOHNSON, Denver.
Discussion to be opened by EDWARD DELEHANTY, Denver.

The Pathology of the Motor Nerve Endings in Experimental Poliomyelitis (Lantern Demonstration).
HERMAN CHOR, St. Louis.

Resistance to Poliomyelitis: The Relative Importance of Physiologic and Immunologic Factors (Lantern Demonstration).
CLAUS W. JUNGEBLUT and EARL T. ENGLE, New York.

The Rôle of the Anterior Roots in Visceral Sensibility (Lantern Demonstration). THEODORE T. STONE, Chicago.
Discussion to be opened by LEWIS J. POLLOCK, Chicago.

Atypical Facial Neuralgias (Lantern Demonstration).
DAVID C. WILSON, University, Va.

Experimental Exophthalmos (Motion Picture Demonstration).
HARRY B. FRIEDGOOD, Ann Arbor, Mich.
Discussion to be opened by LEONARD G. ROWNTREE, Rochester, Minn.

Experimental Epilepsy (Motion Picture Demonstration).
S. BERNARD WORTIS, New York.
Discussion to be opened by HENRY DASPIT, JR., New Orleans.

Thursday, May 12—9 a. m.

Chairman's Address: The Crisis in Psychiatric Education.
FRANKLIN G. EBAUGH, Denver.

Comments on Some Current Criticisms of Psychiatry.
SANGER BROWN II, Albany, N. Y.
Discussion to be opened by H. DOUGLAS SINGER and GEORGE W. HALL, Chicago.

Amyotrophic Lateral Sclerosis Combined with Subacute Cord Degeneration in the Same Patient (Lantern Demonstration). GEORGE B. HASSIN, Chicago.
Discussion to be opened by CHARLES DAVISON, New York, and THEODORE T. STONE, Chicago.

Syphilitic Amyotrophy (Lantern Demonstration).
GEORGE W. HALL and R. P. MACKAY, Chicago.
Discussion to be opened by HENRY DASPIT, JR., New Orleans, and GEORGE B. HASSIN, Chicago.

Acute Myelitis: Syndrome of Occlusion of the Anterior Spinal Artery at the Fifth Cervical Segment (Lantern Demonstration).
WALTER F. SCHALLER, ARCHIE M. ROBERTS and EDWARD F. STADTHERR, San Francisco.
Discussion to be opened by EDWIN G. ZABRISKIE, New York.

Focal Lesions of the Spinal Cord Due to Vascular Disease (Lantern Demonstration).
JOHN L. ECKEL, Buffalo, and N. W. WINKELMAN, Philadelphia.

Lymphoblastomatous Involvement of the Nervous System (Lantern Demonstration).
HENRY R. VIETS and FRANCIS T. HUNTER, Boston.
Discussion to be opened by GEORGE W. HOLMES, Boston, and FRANK J. HECK, Rochester, Minn.

Friday, May 13—9 a. m.

Election of Officers

Experiments with Therapeutic Aids in a Psychiatric Hospital.
WILLIAM C. MENNINGER, Topeka, Kan.
Discussion to be opened by HANS H. REESE, Madison, Wis., and F. GARM NORBURY, Jacksonville, Ill.

Raynaud's Disease (Lantern Demonstration).
EDGAR V. ALLEN, Rochester, Minn.
Discussion to be opened by W. J. MERLE SCOTT, Rochester, N. Y.; WILLIAM J. KERR, San Francisco, and ARTHUR W. ALLEN, Boston.

Brain Abscess (Lantern Demonstration).
FRANCIS C. GRANT, Philadelphia.
Discussion to be opened by ERNEST SACHS, St. Louis, and R. E. SEMMES, Memphis, Tenn.

Metastatic Abscesses of the Brain of Intrapulmonary Origin (Lantern Demonstration).
E. L. HUNT, New York, and J. R. LISA, Brooklyn.
Discussion to be opened by GILBERT C. ANDERSON, New Orleans.

The Anatomic Basis of the Clinical Manifestations of Cerebral Vascular Disorders (Lantern Demonstration).
IRVING J. SANDS, Brooklyn.
Discussion to be opened by GEORGE B. HASSIN, Chicago.

Diagnostic Criteria for the Diagnosis of Brain Tumor (Lantern Demonstration). MICHAEL OSNATO, New York.
Discussion to be opened by HENRY DASPIT, JR., and WALTER J. OTIS, New Orleans.

SECTION ON DERMATOLOGY AND SYPHILOLOGY

MEETS AT ST. CHARLES HOTEL

OFFICERS OF SECTION

Chairman—GEORGE M. MACKEE, New York.
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Secretary—FRANCIS E. SENEAR, Chicago.
Executive Committee—WILLIAM H. GUY, Pittsburgh; ELMORE B. TAUBER, Cincinnati; GEORGE M. MACKEE, New York.

Wednesday, May 11—9 a. m.

Chairman's Address: Physical Therapy in Dermatology.
GEORGE M. MACKEE, New York.

Comments on the In Vitro Behavior of Lepra and Certain Other Acid-Fast Micro-Organisms in the Presence of Leukocytes (Lantern Demonstration).
O. E. DENNEY, Carville, La.

Recent Progress in Leprosy Work (Lantern Demonstration).
H. WINDSOR WADE, Culion, P. I.

Chromoblastomycosis in Texas (The Second North American Case) (Lantern Demonstration).
SIDNEY J. WILSON, Fort Worth, Texas, and FRED D. WEIDMAN, Philadelphia.

Actinomycosis of the Tongue (Lantern Demonstration).
OLIN J. CAMERON, Ann Arbor, Mich.

Scleredema Adultorum (Buschke) (Lantern Demonstration).
NORMAN N. EPSTEIN, San Francisco.

Thursday, May 12—9 a. m.

Reactions and Serologic Results Following Arsphenamine or Neo-Arsphenamine Treatment of Syphilis (Study of Five Thousand Cases) (Lantern Demonstration).
J. P. THORNLEY, New York.

The Effect of Various Drugs on Spirochaeta Pallida in the Brains of Rabbits and Mice with Asymptomatic Syphilis.
GEORGE W. RAIZISS, Philadelphia.

Excretions of Mercury After Calomel Inunction.
HAROLD N. COLE, TORALD H. SOLLMANN and NORA SCHREIBER, Cleveland.

The Blood Sugar in the More Common Skin Diseases (Lantern Demonstration). J. EDGAR FISHER, Cleveland.

Erythroderma Psoriaticum (Review of Twenty-Two Cases).
W. H. GOECKERMAN and P. A. O'LEARY, Rochester.

Industrial Dermatitis with Special Reference to Mycotic Dermatitis in Industry (Lantern Demonstration).
EARL D. OSBORNE and E. D. PUTNAM, Buffalo.

Friday, May 13—9 a. m.

Election of Officers

Eczema Due to Contact with Commercial Rubber Preparations (Lantern Demonstration). M. E. OBERMAYER, Chicago.

Lymphogranulomatosis Inguinale (Nicolas-Favre Disease) (Lantern Demonstration).
J. V. VAN CLEVE and HENRY F. DEWOLF, Cleveland.

The Relation of Roentgen Therapy to Scarring in Acne Vulgaris. HENRY D. NILES, New York.

Pseudoxanthoma Elasticum (Report of Four Cases Showing Its Association with Angioid Streaks of the Retina) (Lantern Demonstration). JACK W. JONES, Atlanta, Ga.

Pyoderma Gangrenosum (with Report of an Unusual Case) (Lantern Demonstration). CLINTON W. LANE, St. Louis.

Cutis Verticis Gyrata (of Inflammatory Origin) (Lantern Demonstration). ERNEST K. STRATTON, San Francisco.

SECTION ON PREVENTIVE AND INDUSTRIAL MEDICINE AND PUBLIC HEALTH

MEETS AT TULANE UNIVERSITY OF LOUISIANA SCHOOL OF MEDICINE

OFFICERS OF SECTION

Chairman—J. E. Gordon, Detroit.
Vice Chairman—J. N. BAKER, Montgomery, Ala.
Secretary—W. G. SMILLIE, Boston.
Executive Committee—E. L. BISHOP, Nashville, Tenn.; A. J. LANZA, New York; J. E. GORDON, Detroit.

Wednesday, May 11—2 p. m.

Endemic Typhus of the United States: History, Recent Developments, and Present Status of Our Knowledge.
R. E. DYER, L. F. BADGER and E. T. CEDER, Washington, D. C.
Discussion to be opened by BEDFORD SHELMIRE and H. A. KEMP, Dallas, Texas.

Tuberculosis in Tennessee.
E. L. BISHOP, Nashville, Tenn., and H. C. STEWART, Franklin, Tenn.
Discussion to be opened by HORTON R. CASPARIS, Nashville, Tenn.

Significance of Immunity Tests in Epidemiology, as Illustrated in Yellow Fever (Lantern Demonstration).
T. P. HUGHES and W. A. SAWYER, New York.
Discussion to be opened by BOLIVAR J. LLOYD, Washington, D. C.

Acquired Immunity in Benign Tertian Malaria (Lantern Demonstration). MARK F. BOYD, Tallahassee, Fla.
Discussion to be opened by C. C. BASS, New Orleans, and T. H. D. GRIFFITHS, Albany, Ga.

A Study of the Periodicity of Typhoid Carriers.
RALPH MCBURNEY, Tuscaloosa, Ala.
Discussion to be opened by LLOYD L. ARNOLD, Chicago, and LEON C. HAVENS, Montgomery, Ala.

Thursday, May 12—2 p. m.

JOINT MEETING WITH SECTION ON PRACTICE OF MEDICINE, CONCERT HALL, MUNICIPAL AUDITORIUM

THE RELATION OF PRIVATE PRACTICE TO PREVENTIVE MEDICINE

The Doctor and Preventive Medicine.
ROGER I. LEE, Boston.

Public Health and Organized Medicine.
J. N. BAKER, Montgomery, Ala.
Discussion to be opened by W. S. LEATHERS, Nashville, Tenn., and FELIX J. UNDERWOOD, Jackson, Miss.

Relation of Private Practice to Preventive Medicine in Europe.
G. F. BOUDREAU, Geneva, Switzerland.
Discussion to be opened by RAY LYMAN WILBUR, Washington, D. C.

Present-Day Trends of Private Practice in the United States.
MORRIS FISHBEIN, Chicago.

Friday, May 13—2 p. m.

Election of Officers

Collapse Therapy: Its Public Health Aspects and Potentialities. ALLAN J. HRUBY, Chicago.
Discussion to be opened by IMAS P. RICE, Aurora, Ill., and R. W. DUNHAM, Ottawa, Ill.

A Study of Sickness Costs and Private Medical Practice.
D. B. ARMSTRONG, New York.
Discussion to be opened by GEORGE E. FOLLANSBEE, Cleveland.

The Control of Pellagra.
G. A. WHEELER and W. H. SEBRELL, JR., Washington, D. C.
Discussion to be opened by JAMES M. PARROTT, Raleigh, N. C.

Hospital Health Service for the Student Nurse.
WILLARD C. STONER, Cleveland.

The Clinical Teaching of Preventive Medicine.
DWIGHT O'HARA, Boston.
Discussion to be opened by W. H. PERKINS, New Orleans.

SECTION ON UROLOGY

MEETS AT ST. CHARLES HOTEL

OFFICERS OF SECTION

Chairman—J. DELLINGER BARNEY, Boston.
Vice Chairman—P. S. PELOUZE, Philadelphia.
Secretary—N. G. ALCOCK, Iowa City.
Executive Committee—HERMON C. BUMPUS, JR., Rochester, Minn.; A. I. FOLSOM, Dallas, Texas; J. D. BARNEY, Boston.

Wednesday, May 11—2 p. m.

Carcinoma of Bladder: Indications for Nephrostomy and Nephrectomy (Lantern Demonstration). M. L. BOYD, Atlanta, Ga.
Surgical Aspect of Renal Agencies with Special Reference to Hypoplastic Kidney, Renal Aplasia and Congenital Absence of One Kidney (Lantern Demonstration). ROBERT GUTIERREZ, New York.
Structural and Functional Changes in Urinary Tract Following Transverse Myelitis (Lantern Demonstration). R. E. CUMMING, Detroit.
Conservative Surgery in Obstructive and Calculous Disease of the Kidney (Lantern Demonstration). HUGH H. YOUNG, Baltimore.
Urinary Calculi (Lantern Demonstration). HENRY K. SANGREE, Philadelphia.
Cystine Nephrolithiasis (Lantern Demonstration). GEORGE H. EWELL, Madison, Wis.

Thursday, May 12—2 p. m.

Chairman's Address: Infarcts of the Kidney (Lantern Demonstration). J. DELLINGER BARNEY, Boston.
Operative Relief of Prostatic Obstruction. HENRY G. BUGBEE, New York.
Author's Cautery Punch Operation Continues to Reduce the Necessity for Prostatectomy. J. R. CAULK, St. Louis.
Results of Prostatic Resection Over Seven Year Period (Lantern Demonstration). H. C. BUMPUS, JR., Rochester.
The Prophylaxis of Prostatism (Lantern Demonstration). JOSEPH F. MCCARTHY, New York.
The Present Status of Prostatic Resection (Motion Picture Demonstration). T. M. DAVIS, Greenville, S. C.

Friday, May 13—2 p. m.

Election of Officers

A Pyeloscopic and Urographic Study Before and After Renal Sympathectomy (Lantern Demonstration). W. P. HERBST, JR., Minneapolis.
Treatment of Patient with Urinary Tract Infection (Lantern Demonstration). C. E. ERVIN, Danville, Pa.
Urinary Antisepsis—A Comparison of Methenamine, Caprokol, Pyridium and Acriflavine as to Clinical Efficiency (Lantern Demonstration). EDWIN DAVIS, Omaha.
Nephrostomy in Theory and Practice (Lantern Demonstration). HUGH CABOT, Rochester, Minn.
Surgical Treatment of Genital Tuberculosis (Lantern Demonstration). ARTHUR B. CECIL, Los Angeles.
Renal Backache. H. L. MORRIS, Detroit.

SECTION ON ORTHOPEDIC SURGERY

MEETS AT MONTELEONE HOTEL

OFFICERS OF SECTION

Chairman—J. W. Sever, Boston.
Vice Chairman—W. BARNETT OWEN, Louisville, Ky.
Secretary—J. S. SPEED, Memphis, Tenn.
Executive Committee—C. B. FRANCISCO, Kansas City, Mo.; H. W. MEYERDING, Rochester, Minn.; J. W. SEVER, Boston.

Wednesday, May 11—2 p. m.

Studies on the Etiology and Treatment of Chronic Arthritis (Lantern Demonstration). R. BURBANK, New York.
Discussion to be opened by ROBERT B. OSGOOD, Boston.
Relationship of Thyroid Disorders to Arthritis (Lantern Demonstration). WALLACE S. DUNCAN, Cleveland.
Discussion to be opened by HENRY W. MEYERDING, Rochester, Minn.
Periarthritis. JAMES A. DICKSON, Cleveland.
Discussion to be opened by W. B. CARRELL, Dallas, Texas; JOSEPH E. WHEELER, Jefferson Barracks, Mo., and MYRON O. HENRY, Minneapolis.
Demonstration of the Galeazzi Method of Treating Scoliosis (Lantern and Motion Picture Demonstration). PHILIP LEWIN, Chicago.
Discussion to be opened by SAMUEL KLEINBERG, New York, and J. H. KITE, Decatur, Ga.
Loss of Lumbosacral Joint Space and Its Relation to Sciatic Irritation. PAUL C. WILLIAMS, Ann Arbor, Mich.
Discussion to be opened by FREMONT A. CHANDLER and EMIL D. W. HAUSER, Chicago.
Postsurgical Use of the Underwater Gymnasium (Motion Picture Demonstration). C. L. LOWMAN, Los Angeles.

Thursday, May 12—2 p. m.

Treatment of Congenital Clubfoot (Motion Picture Demonstration). J. H. KITE, Decatur, Ga.
Discussion to be opened by E. S. HATCH, New Orleans; R. W. BILLINGTON, Nashville, Tenn., and BARNEY J. HEIN, Toledo, Ohio.
Countersinking of the Astragalus to Stabilize the Ankle in Paralytic Feet (Lantern Demonstration). ALBERT H. BREWSTER, Boston.
Discussion to be opened by ARMITAGE WHITMAN, New York; P. A. MCILHENNY, New Orleans, and D. H. LEVINTHAL, Chicago.
An Operative Procedure for the Relief of Congenital Elevation of the Scapula and for Paralysis of the Serratus Magnus Muscle (Lantern and Motion Picture Demonstration). ARMITAGE WHITMAN, New York.
Discussion to be opened by JOHN PRENTISS LORD, Omaha, and JAMES A. DICKSON, Cleveland.
Chairman's Address. J. W. SEVER, Boston.
Acromioclavicular Dislocations: Autoplastic Reconstruction (Lantern Demonstration). C. C. SCHNEIDER, Milwaukee.
Discussion to be opened by ISIDORE COHN, New Orleans, and JOHN D. SHERRILL, Birmingham, Ala.
End-Results in Fractures of the Os Calcis (Lantern Demonstration). RUDOLPH S. REICH, Cleveland.
Discussion to be opened by ALBERT H. BREWSTER, Boston; ROBERT CAROTHERS, Cincinnati, and KARL R. WERNDORFF, Council Bluffs, Iowa.

Friday, May 13—2 p. m.

Election of Officers

Old Dislocation of the Shoulder: A New Instrument for Reduction (Lantern Demonstration). WILLIAM ARTHUR CLARK, Pasadena, Calif.
Discussion to be opened by E. B. FOWLER, Chicago; A. E. BENCE, Wichita, and G. L. MCWHORTER, Chicago.
Tumors of Pelvic Bones. C. B. FRANCISCO, Kansas City, Mo.
Discussion to be opened by HENRY W. MEYERDING, Rochester, Minn., and J. S. SPEED, Memphis, Tenn.
Circulation of the Head and Neck of the Femur in Its Relation to Nonunion in Fractures of the Femoral Neck (Lantern Demonstration. W. E. WOLCOTT, Des Moines, Iowa.
Discussion to be opened by ARTHUR T. LEGG, Boston, and ANATOLE KOLODNY, Sioux City, Iowa.
The Effect of X-Rays on Bone Growth and on Regeneration (Lantern Demonstration). E. M. REGEN and H. T. HILLSTROM, Nashville, Tenn.
Discussion to be opened by BARNEY BROOKS, Nashville, Tenn., and D. B. PHEMISTER, Chicago.
Closure of Chronic Osteomyelitic Cavities by Plastic Methods (Lantern Demonstration). JOHN P. LORD, Omaha.
Discussion to be opened by F. J. GAENSLEN, Milwaukee, and KELLOGG SPEED, Chicago.
Injuries to the Internal and External Lateral Ligaments of the Knee: A Conservative Method of Treatment (Lantern Demonstration). FRANK G. MURPHY, Chicago.
Discussion to be opened by C. B. FRANCISCO, Kansas City, Mo.; L. D. SMITH, Milwaukee, and LOUIS W. ALLARD, Billings, Mont.

SECTION ON GASTRO-ENTEROLOGY AND PROCTOLOGY

MEETS AT TULANE UNIVERSITY OF LOUISIANA SCHOOL OF MEDICINE

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Secretary—A. F. R. ANDRESEN, Brooklyn.
Executive Committee—JULIUS FRIEDENWALD, Baltimore; DUDLEY A. SMITH, San Francisco; GEORGE B. EUSTERMAN, Rochester, Minn.

Wednesday, May 11—9 a. m.

Prolapse of the Rectum: Its Reclassification, and Surgical Treatment (Lantern Demonstration). E. G. MARTIN, Detroit.
Discussion to be opened by WALTER A. FANSLER, Minneapolis, and MAURICE LESCALE, New Orleans.

The Pathology of Tumor Formation Consequent to the Injection of Oils Under the Rectal Mucosa (Lantern Demonstration).
CURTICE ROSSER and STUART A. WALLACE, Dallas, Texas.
Discussion to be opened by FRED D. WEIDMAN, Philadelphia, and C. J. DE BERE, Chicago.

The Status of Colostomy (Lantern Demonstration).
DUDLEY A. SMITH, San Francisco.
Discussion to be opened by LOUIS J. HIRSCHMAN, Detroit, and ALTON OCHSNER, New Orleans.

Colostomy, Radiation Therapy and Perineal Resection for Carcinoma of the Rectum (Lantern Demonstration).
GEORGE E. BINKLEY, New York.
Discussion to be opened by W. F. HENDERSON, New Orleans, and FRED W. RANKIN, Rochester, Minn.

Gastro-Intestinal Tumors in Mice. MAUD SLYE, Chicago.

The Unstable Colon and Neurasthenia (Lantern Demonstration). SARA M. JORDAN, Boston.
Discussion to be opened by ANTHONY BASSLER, New York, and JOHN G. MATEER, Detroit.

Thursday, May 12—9 a. m.

Chairman's Address: Notes on Problems and Progress in Gastro-Enterology.
GEORGE B. EUSTERMAN, Rochester, Minn.

Observations on the Development and Treatment of Experimentally Produced Peptic Ulcers (Lantern Demonstration).
F. C. MANN and J. L. BOLLMAN, Rochester, Minn.
Discussion to be opened by I. S. RAVDIN, Philadelphia.

Experimental and Clinical Work on Gastric Mucin (Lantern Demonstration).
A. C. IVY and S. J. FOGELSON, Chicago.
Discussion to be opened by MARTIN G. VORHAUS, New York.

Process of Repair of Gastric Ulcer (Lantern Demonstration).
LEWIS GREGORY COLE, New York.

A Clinical Consideration of the Therapeutic Worth of Mucin in the Treatment of Peptic Ulcer (Lantern Demonstration). FRANK SMITHIES, Chicago.
Discussion to be opened by LUTHER J. OSGOOD, Waukegan, Ill.

The Relation of Alkalosis to Peptic Ulcer (Lantern Demonstration). HENRY A. RAFSKY, New York.
Discussion to be opened by LEO L. J. HARDT and JAMES B. EYERLY, Chicago.

The Instances of Carcinoma in Chronic Ulcerating Lesions of the Stomach (Lantern Demonstration).
GEORGE W. HOLMES and AUBREY O. HAMPTON, Boston.
Discussion to be opened by LEON T. LE WALD, New York, and JOHN D. CAMP, Rochester, Minn.

Friday, May 13—9 a. m.

Election of Officers

Experimental and Clinical Studies on Regurgitation of Duodenal Contents into the Stomach (Lantern Demonstration).
PERCY B. DAVIDSON, Boston, and FERNANDO BIGURIA, Guatemala City, C. A.
Discussion to be opened by DANIEL N. SILVERMAN, New Orleans.

Demonstration of a Hormone-Like Element Capable of Affecting the Small Intestinal Contractions.
MARTIN E. REHFUSS, Philadelphia.
Discussion to be opened by HENRY LAURENS, New Orleans.

Terminal Ileitis: Its Clinical Manifestations (Lantern Demonstration). BURRILL B. CROHN, New York.
Discussion to be opened by JOHN E. JENNINGS, Brooklyn.

The Differential Diagnosis of Diseases of the Liver and Spleen with the Aid of Roentgenography After the Intravenous Injection of Thorium Dioxide (Lantern Demonstration).
WALLACE M. YATER and LAURENCE S. OTELL, Washington, D. C.

Liver Function Tests.
WILLIAM E. ROBERTSON, FRANK W. KONZELMAN and WILLIAM A. SWALM, Philadelphia.
Discussion to be opened by JOHN A. KILLIAN, New York, and DONOVAN C. BROWNE, New Orleans.

Clinical Observation on the Relation of Gastric and Renal Disorders.
JULIUS FRIEDENWALD and SAMUEL MORRISON, Baltimore.
Discussion to be opened by SIDNEY K. SIMON, New Orleans, and SEALE HARRIS, Birmingham, Ala.

SECTION ON RADIOLOGY

MEETS IN NORTH ASSEMBLY HALL, MUNICIPAL AUDITORIUM

OFFICERS OF SECTION

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Secretary—GEORGE W. GRIER, Pittsburgh.
Executive Committee—FRED M. HODGES, Richmond, Va.; ARTHUR W. ERSKINE, Cedar Rapids, Iowa; HENRY K. PANCOAST, Philadelphia.

Wednesday, May 11—9 a. m.

Chairman's Address (Lantern Demonstration).
HENRY K. PANCOAST, Philadelphia.

Roentgenotherapy of Malignant Neoplasms of the Upper Respiratory Tract (Lantern Demonstration).
MAURICE LENZ, New York.
Discussion to be opened by FRANCIS CARTER WOOD, New York.

Radiotherapy for Hodgkin's Disease and Lymphosarcoma (Lantern Demonstration).
A. U. DESJARDINS, Rochester, Minn.
Discussion to be opened by JOHN H. MUSSER, New Orleans.

The Advantage of Weak, Heavily Filtered Radium Needles in the Treatment of Malignant Conditions (Lantern Demonstration). CHARLES L. MARTIN, Dallas, Texas.
Discussion to be opened by MAURICE LENZ, New York.

Roentgen Study of the Physiologic and Pathologic Changes of the Mammary Gland (Lantern Demonstration).
IRA H. LOCKWOOD, Kansas City, Mo.
Discussion to be opened by LEON J. MENVILLE, New Orleans.

Thursday, May 12—9 a. m.

Intestinal Tuberculosis with Special Reference to Calcification (Lantern Demonstration).
C. H. HEACOCK, Memphis, Tenn.
Discussion to be opened by P. F. BUTLER, Boston.

Physostigmine, a Peristaltic Stimulant (Lantern Demonstration). P. F. BUTLER and MAX RITVO, Boston.
Discussion to be opened by ERNEST C. SAMUEL, New Orleans.

Pneumonia Due to the Aspiration of Lipoids (Lantern Demonstration). JOHN W. PIERSON, Baltimore.
Discussion to be opened by W. W. WASSON, Denver.

Atelectasis in Pulmonary Tuberculosis (Lantern Demonstration). B. P. STIVELMAN, New York.
Discussion to be opened by LEON T. LE WALD, New York.

Requirements for Practice of Radiology.
ARTHUR C. CHRISTIE, Washington, D. C.
Discussion to be opened by HENRY K. PANCOAST, Philadelphia.

The Significance of Radiologic Research in Medicine.
EDWIN C. ERNST, St. Louis.

Friday, May 13—9 a. m.

Election of Officers

A Roentgenologic Study of the Osseous Changes in Hyperparathyroidism (Lantern Demonstration).
JOHN D. CAMP, Rochester, Minn.
Discussion to be opened by LAWRENCE REYNOLDS, Detroit.

Radiologic Researches of Pregnancy, Featuring the Early Diagnosis. A. JEROME THOMAS, Shreveport, La.
Discussion to be opened by CHARLES L. MARTIN, Dallas, Texas, and AMÉDÉE GRANGER, New Orleans.

Roentgen Diagnosis of Nasal Sinusitis (Lantern Demonstration). BUNDY ALLEN, Tampa, Fla.
Discussion to be opened by AMÉDÉE GRANGER, New Orleans.

Congenital Absence of Posterior Orbital Wall Associated with Pulsating Exophthalmos: Report of Three Cases (Lantern and Motion Picture Demonstration).
LEON T. LE WALD, New York.
Discussion to be opened by W. R. BUFFINGTON, New Orleans.

Fractures of Spine: Report of One Hundred Cases (Lantern Demonstration). ROY G. GILES, Temple, Texas.
Discussion to be opened by S. C. BARROW, Shreveport, La.

THE TECHNICAL EXPOSITION

It is a matter of pride that, during a year marked by sluggishness in general industry, the medical supply industry has forged ahead much the same as in any other year.

The truth of this statement will be exemplified throughout all departments of the Technical Exposition at New Orleans. More than 130 firms will present exhibits of their products, and in the advance information received, the word "new" is the dominant note. Practically every publisher of books who is exhibiting, expects to bring to New Orleans a number of entirely new works, as well as new and revised editions of previous publications. In the pharmaceutical field, distinctive advances have been made, and many manufacturers will be in a position to show new medicinals perfected to the point where the profession at large may now utilize them. Constant improvements have taken place in apparatus and instruments and, in line with the growing appreciation of oxygen therapy, special emphasis will be given to displays featuring various types of apparatus for administering oxygen. The rapid increase of scientific knowledge regarding foods and their relationship to health will be reflected by highly informative exhibits from representative food manufacturers and by a special display of all of the food products which have been passed upon and accepted by the Committee on Foods of the A. M. A. The exhibits, therefore, furnish a splendid opportunity to establish contact with important developments in practically every field of medicine. Moreover, the representatives at booths are as a rule highly trained technical men capable of giving useful information but courteously refraining from undue urging to purchase.

Exhibits at the New Orleans Convention in 1920. This year, the new and commodious Auditorium affords ample housing facilities for the Technical Exposition, the Scientific Exhibits, several Section Meetings, and the Registration under one roof.

The compact arrangement of the Technical Exposition this year, together with the numbering system for booths, will make it exceedingly easy to locate any particular display. Booths with numbers under 200 are all located on the Second Floor Level. Those with numbers above 200 are all on the First Floor Level. The exhibits will be open daily from 8:30 a. m. until 6:00 p. m., closing at 12:00 m. on Friday. Floor plan is printed on page 1303.

A considerable number of firms have furnished advance information as to what may be found in their exhibits. These news items have been grouped according to the type of products concerned—Apparatus, Books, Pharmaceuticals, etc., and are given in the following pages as an indication of the vast amount of specifically useful ideas the visitor may absorb by spending an adequate amount of time in inspecting these exhibits.

WILL C. BRAUN,
Superintendent of Exhibits.

BOOKS

"Practitioner's Library of Medicine and Surgery"

D. Appleton and Company, in Booth 232, will have an extensive display of their new Practitioner's Library of Medicine and Surgery which is to include 12 volumes and index, under the editorial supervision of Dr. George Blumer. The initial presentation of the first two volumes and ample material of the authors, will give a complete idea of this outstanding medical work. Also on display will be the 16-vol. Gynecological and Obstetrical Monographs, the 21-vol. "Clinical Pediatrics," the 7-vol. George Blumer edition of "Billings-Forchheimer Therapeusis of Internal Diseases," and others.

Over Two Hundred Hoeber Monographs

Among the new books to be shown by Paul B. Hoeber, Inc., at Booth 235, will be Packard's 2-vol. "History of Medicine in the United States," Livingston's "A Clinical Study of the Abdominal Cavity and Peritoneum," Penfield's 3-vol. "Cytology and Cellular Pathology of the Nervous System," and the completely revised and up-to-date edition of the "United States Army X-Ray Manual." The complete Hoeber line of over 200 medical monographs and current issues, and a complete set of the Annals of Medical History will also be on display.

Lea & Febiger to Show Important Books

The Lea & Febiger exhibit in Booth 236 will include a number of new works of the first importance. Among them are Kovacs' "Electrotherapy and the Elements of Light Therapy," Granger's "Radiological Study of the Para-nasal Sinuses," Meyer's "Roentgen Pathology of Thoracic Lesions," Gifford's "Ocular Therapeutics," Kessler's "Accidental Injuries," Rowe's "Food Allergy," Kuntz's "Text-Book of Neuro-Anatomy," Kilduffe's "Blood Examinations," Cantarow's "Calcium Metabolism," Stimson's "Common Contagious Diseases," and Boyd's "Pathology of Internal Diseases." New editions of other books will also be shown.

A Pleasant Place for Browsing Among Books

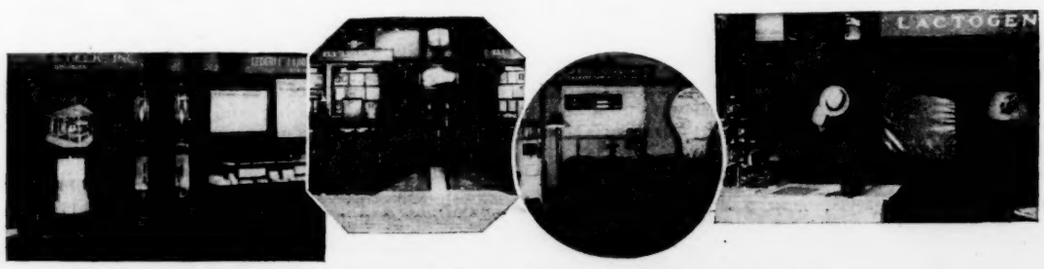
Booths 210 and 211 will be turned into an Old English library where the J. B. Lippincott Company will provide a delightful place to rest and browse among books of unusual merit and interest. In these restful, attractive surroundings you are invited to study the newest trends in medical literature, exemplified by medical books of an entirely different type, both in content and format, and monographs that exhaustively or concisely cover various subjects. You will find this an ideal library for a medical man.

New Addition to Macmillan Monographs

Among the books with a wide range of interest presented by the Macmillan Company in Booth 231, will be an addition to the series of Macmillan Medical Monographs. It is entitled "An Experimental and Clinical Study of Pain in the Pleura, Pericardium and Peritoneum," by Dr. Joseph A. Capps, Professor of Clinical Medicine, University of Chicago, in collaboration with Dr. George H. Coleman, Assistant Professor of Medicine, Rush Medical College; with an introduction by Dr. Anton J. Carlson, Chairman of the Department of Physiology, University of Chicago.

An Important New Book on Biochemistry in Internal Medicine

Among the important new books and new editions to be displayed by the W. B. Saunders Company in Booths 233 and 234 are Trumper and Cantarow's "Biochemistry in Internal Medicine,"



Typical Exhibits

which is really the clinical interpretation of biochemical findings; the new Mayo Clinic Volume; advanced sheets of a work on Electrosurgery by Howard A. Kelly and Grant Ward; Bumpus' "Minor Surgery of the Urinary Tract"; Buie's work on "Hemorrhoids and Pruritus Ani"; Weiss and Isaacs' "Clinical and Laboratory Technic"; and new edition of McLester's "Nutrition and Diet," of Cecil's "Medicine," of Pelouze's "Gonorrhea in the Male and Female," of Da Costa's "Surgery," and of Stevens' "Practice."

DIETETIC SUPPLIES

To Serve Cocomalt, Hot or Cold

The R. B. Davis Company invites you to stop at Booth 276 to secure full information relative to Cocomalt, a delicious food drink that is being used by physicians in their practice and in hospitals with a high degree of satisfaction. Cocomalt will be served, hot or cold, so that you may judge for yourself its quality and flavor. Miss Elsie Stark, of the Home Economics Department, will be glad to answer questions concerning Cocomalt.

How Dryco Prevents Rickets

The Dry Milk Company will show Irradiated Dryco in Booth 286. Realizing that many mothers fail to give added antirachitics to infants, and believing that in adequately irradiated milk lies the best safeguard, the manufacturer has had extensive biological and clinical tests made to prove the Vitamin D potency of Dryco. These tests and other points of advantage of this product will be gladly discussed by attendants at the Dryco exhibit.

Infant Feeding Service

The Evaporated Milk Association, a research and educational institute designed to encourage the use of milk in the diet, will have an exhibit in Booth 322. The Association offers an infant feeding service to physicians, and has a number of booklets on child care which they can pass on to mothers. Also available without cost to physicians are diet lists for infants, children and expectant mothers; booklets on feeding the family as a whole and low cost diets for poor and needy groups.

Kaffee Hag Coffee and All-Bran Muffins Served

Stop at the Kellogg Company's exhibit, Booths 337 and 338, and try a cup of Kaffee Hag Coffee with an All-Bran Muffin, served by Miss Mary I. Barber and Mrs. Winifred Loggans of the home economics department. Test the fine flavor and aroma of Kaffee Hag Coffee, a satisfactory nonstimulating beverage for special diets. Get new facts about Kellogg's All-Bran and its value in correcting cases of atonic constipation.

The Special Dietetic Uses of Gelatine

With the growing importance of Knox Sparkling Gelatine for various dietetic purposes, the exhibit of the Knox Gelatine Company in Booths 282 and 283 will be of unusual interest. Attractive dishes suitable for different diets will be on display, and booklets on diabetic diets, reducing diets and liquid and soft diets will be available. Testing samples of salads and candies made with Knox Gelatine will be given free.

Facts About Curd Tension in Infant Foods

Similac, a completely modified cow's milk which is a development of eighteen years of research work at the Boston Floating Hospital, will be displayed by the M & R Dietetic Laboratories in Booths 250 and 251. Representatives will be pleased to answer questions relative to the comparison of the curd tension of breast milk and Similac, and also the application of Similac to the feeding of infants when breast milk is not available.

For Physicians Interested in Nutritional Problems

How products can be guaranteed for a definite known vitamin potency in respect to vitamins A, B, C, D and G will be illustrated by the Maltine Company in Booth 83. This exhibit will include specimens of raw materials as well as finished products. Illuminated pictures, photographs and photomicrographs will be shown, and a means of introducing measured amounts of food substances into the diet of infants will be demonstrated. Reports on these products by an internationally known authority will be available.

Discussion Invited on Mellin's Food

The source, nature and amount of nutritive elements that enter into the making of Mellin's Food, the composition of the finished product, the caloric value of various quantities by weight and by measure, and what Mellin's Food accomplishes as a modifier of milk in the feeding of infants and adults, are subject matters for discussion at Booths 284 and 285. The Mellin's Food Company invites all physicians to call, to ask questions and to offer suggestions that will lead to a thorough understanding of Mellin's Food and its purpose.

Cereal Products for Various Diets

In Booth 305, the Ralston Purina Company will show Ralston cereal products, including the new infant cereal, Baby Ralston, specially designed to be the baby's first cereal food, which requires a short time for cooking and provides an excellent source of appetite-stimulating Vitamin B_1; Ralston Wheat Cereal which now contains an added amount of wheat germ to provide extra Vitamin B_1 for the growing child; and Ry-Krisp, the Whole Rye Wafer for wheat allergy diets. A booklet, "Special Recipes, Menus and Food Lists for Wheat, Egg, and Milk-Free Diets" will be available to interested physicians.

S. M. A. to Show Spasmophilia Film

An interesting movie illustrating several cases of infantile spasmophilia will be shown daily at the exhibit of the S. M. A. Corporation. Additional scientific data will be offered for

List of Exhibitors

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Allison Co., W. D., Indianapolis	278-325
Aloe Co., A. S., St. Louis	240-252
A. M. A. Exhibit	61-62
A. M. A. Food Committee Exhibit	61
American Hosp. Supp. Corp., Chicago	44
Amer. Med. Assn. and Supt's Office	205-206
American Opt. Co., Southbridge, Mass.	330-331
Appleton & Co., D., New York	232
Armour and Co., Chicago	354
Aurora X-Ray Corp., Aurora, Ill	8-9
Aznoe's Nat. Phys. Exchange, Chicago	66
Bard-Parker Co., New York	271
Battle Creek Food Co., Battle Creek, Mich.	304
Bauer & Black, Chicago	16-17
Baum Co., W. A., New York	209
Bausch & Lomb, Rochester, N. Y.	219-273-274
Becton, Dickinson, Rutherford, N. J.	301-302-355
Beiersdorf & Co., P., New York	353
Betz, Frank S. (Personal)	69-70-97-98
Betz Co., Frank S., Hammond	340-341-42-43
Bilhuber-Knoll Corp., Jersey City	221
Borden Co., New York	287-288
Boulitte and Co., G., New York	342
Britesun, Inc., Chicago	86
Brown-Baumann Co., New Orleans	316
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Burdick Corp., Milton, Wis	6-7
Calco Chem. Co., Bound Brook, N. J.	309
Cambridge Inst. Co., New York	30
Cameron Surgical Specialty Co., Chicago	217
Camp & Co., S. H., Jackson, Mich.	215
Castle Co., Wilmot, Rochester, N. Y.	275
Chappel Brothers, Chicago	201
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Ciba Co., Inc., New York	260-261
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Cooperative Med. Adv. Bureau	62
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Davis Co., F. A., Philadelphia	238
Davis Co., R. B., Hoboken	276
Davis and Geck, Inc., Brooklyn	349-350
DePuy Mfg Co., Warsaw, Ind	281
Dermatological Res. Lab., Phila.	241-242-243
DeVilbiss Co., Toledo	259
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Earnshaw Knitting Co., Newton, Mass.	324
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Hynson, Westcott & Dunning, Balto.	269-270
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inspection, showing why infants on S. M. A., their antirachitic breast milk adaptation, do not develop spasmophilia. SMACO Hypo-Allergic Milks, a new product especially prepared for individuals sensitive to milk, will be on display, and the fourth revised edition of their booklet, "Milk Allergy," which covers the subject very thoroughly, will also be available. Booths 104, 105, 106, 107 and 108.

Pureed Fruits and Vegetables

The Van Camp Products Company will exhibit Van Camp's Pureed Fruits and Vegetables and Van Camp's Tomato Juice, preserved foods for supplementing the milk diet of infants, for many special diets, and for enriching normal diets in the "protective" food values. The products will be demonstrated, and useful literature on the chemistry of food and nutrition will be supplied. Booth 299.

INSTRUMENTS, APPARATUS AND SUPPLIES

Specialist in Office Decoration to Be Present

The W. D. Allison Company will feature a complete new line of treatment room furniture of the Jacobean period. The Hanes Rectal Table and other popular items will also be on display, and a specialist in office decoration and arrangement will be in attendance to help solve any problems of this kind. The new Allison catalog will be available to interested physicians. Booths 278 and 325.

Scherck Cystoscope for General Practitioners

You are invited to visit the A. S. Aloe Company's exhibit, Booths 240 and 252 (directly opposite the registration booths), and examine the complete line of Super-X Chrome Plated Instruments, together with a large showing of equipment and supplies. Of especial interest to the general practitioner will be the new Scherck Cystoscope, designed especially to enable him to diagnose and treat cases in this field.

Oxygenaire and Life-Lite on Display

Have you studied the possibilities of oxygen therapy for your cardiac cases, pneumonia cases and those of gas poisoning? The American Hospital Supply Corporation invites you to call at Booth 44 for information on this subject. Ask to inspect the OXYGENAIRE. It is timely, dependable and simple. Of special interest also is the Life-Lite, the original automatic emergency light for the doctor, which automatically reverts to its own power in case of current failure, with no interruption in the steady, brilliant illumination.

Surgical Scissors with Renewable Edge

Included in the exhibit of Bard-Parker surgical instruments, Booth 271, are two new products of interest. One is a new sterilizing jar with adjustable instrument holder, especially developed for use with Bard-Parker Formaldehyde Germicide. The other is a renewable edge scissors of stainless steel—the first successful application of the detachable blade knife to surgical scissors, assuring satisfactory cutting performance at all times. The exhibit will also include Bard-Parker Detachable Blade Knives and a complete line of forceps with the new Lahey lock.

Thermat, the "Magic Heat" Pad

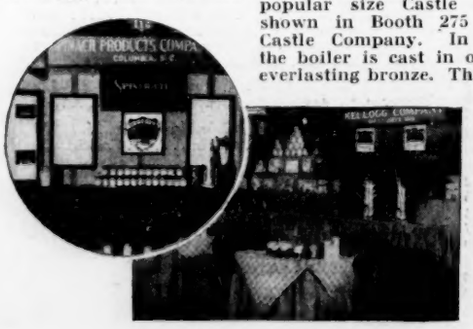
Displayed in the Bauer & Black exhibit will be the full line of surgical dressings and allied products, with prominent display given to the Lastex Surgical Stockings, the first improvement in surgical stockings in many years. Visit Booths 16 and 17 and see how Thermat, the "Magic Heat" pad, operates for the home, traveling, hospital and camping.

Instructive Exhibit of Modern Blood-Pressure Apparatus

Doctors interested in blood-pressure can profit from a visit to Booth 209 where the W. A. Baum Company will display modern blood-pressure apparatus. Many different models of the Lifetime Baumanometer will be shown, including the New KOMPAK Model, the Desk Model, the Kitbag Model, and the Wallboard Model. There will be available copies of the U. S. Bureau of Standards Technological Paper No. 352, "Use and Testing of Sphygmomanometers," which is perhaps the most complete, authoritative, and unbiased treatise on blood-pressure instruments ever written.

Lifetime Sterilizer Boiler Now Cast in Bronze

Any doctor who has ever experienced difficulty with a sterilizer will appreciate the new construction now available on all the popular size Castle sterilizers to be shown in Booth 275 by the Wilmot Castle Company. In these sterilizers the boiler is cast in one solid piece of everlasting bronze. The casting is heavy enough to be rigid, nonwarping and nonleaking, but it is not so heavy as to require extra current for operation. The new construction eliminates the possibility of leaking or warping.



Betz to Have Varied Display

The Frank S. Betz Company will exhibit selected lines of steel furniture, sterilizers, instruments and sundries in Booths 42, 43, 340 and 341. Featured will be bargain trays containing instruments priced from $0.25 to $1, and surprise packages for general practitioners and for ear, nose and throat specialists. Other items shown will include the new Betz hydraulic office chair, the Betz head lamps, special bargains in Luer syringes, the new Betz sterilizer, the Allen table, and a fine line of bags and medicine cases.

Factory and Technical Demonstrations

Becton, Dickinson & Co. will present, in addition to the latest developments of B-D products, a series of factory and technical demonstrations of special interest and benefit to all physicians and surgeons. Workmen direct from the factory will show how hypodermic syringes are actually produced at the bench. Practical demonstrations will be given on the care of hypodermic syringes and needles to secure maximum service and economy in use. The actual technic for testing circulatory fitness with the use of the B-D Flarimeter will be shown in every detail. Booths 301, 302 and 355.

The New Wiltex Latex Glove

The new WILTEX latex glove, manufactured by the Wilson Rubber Company, has aroused a great deal of interest among the medical profession because of its tensile strength and durability. This will be displayed in Booth 316 by the Brown-Baumann Company, Inc., and in addition will be shown a complete line of VIM Slow Ground Syringes, VIM Stainless Needles, and several other products. Get a sample needle and see why so many are choosing the VIM.

Drinker Respirator to Be Demonstrated

Warren E. Collins, Inc., will exhibit new improved models of both the Adult and Infant Drinker Respirator at Booth 208. New Improvements include silent power plant, hand operation and a reduction in price. The Benedict-Roth Metabolism Apparatus, with its new five year guarantee, which includes even the rubber parts, is worthy of your consideration. The new Roth-Barach Oxygen Tent, which meets the most exacting requirements for successful oxygen therapy, will also be on display. Demonstrations will be gladly given.

Film Service for Medical Society Programs

At Booths 349 and 350, Davis & Geck, Inc. will display their complete line of sterile surgical sutures, including boilable and nonboilable (extremely flexible) catgut. Several new and interesting products will be introduced. A feature of this exhibit will be the continuous showing of surgical motion pictures, including four new films which will have their premier showing at this meeting. Arrangements for use of D&G films without charge by medical societies, schools, hospitals and other professional organizations may be made through the representative at the booth.

New Instruments for Bone Traction

New instruments for bone traction, based upon the methods of Boehler, Kirschner, Bendixen and others, will be shown by V. Mueller & Company in Booths 244 and 248. They will show the advantages of using fine piano wire, suspended by means of specially designed loops, putting all necessary traction where needed without dissection, and discuss results achieved by this method. All types of these instruments will be on display, as well as many new eye, ear, nose and throat instruments.

Bronchoscopic Instruments

George P. Pilling & Son Company, established in 1814, will exhibit bronchoscopic instruments as made by them for the various Chevalier Jackson Bronchoscopic Clinics; eye, ear, nose and throat equipment and special surgical instruments as made by them for various surgeons throughout the country. This firm features pneumothorax apparatus; bone surgery instruments, including the lately standardized bone plates and screws; and cranial surgery instruments; and makes a complete line of suction and pressure apparatus and fountain cuspidors—which will be displayed in Booth 311.

Metabolism Apparatus and Electrocardiograf

The Sanborn Company will give demonstrations of metabolism apparatus with automatic circulation of air and oxygen—the Motor-Graphic, portable model, and the larger Sanborn Benedict. Heart men will be interested in the new chest electrodes for taking the fourth electrocardiograf lead. These will be shown in conjunction with the Sanborn Portocardiograf, latest model electrocardiograf for office and hospital use, with the additional advantage of being portable for bedside testing. Booth 339.

Complete Line of Surgical Instruments

A complete line of surgical instruments for every type of operation will be displayed in Booths 300 and 303 by Sharp & Smith. New instruments for orthopedic, urological and general work will include the White Smith Tissue Forceps, Sanderson Bone Screws, Kirschner Bone Extension Apparatus, Davis Resectoscope, and Sands Tissue Cutting Unit. All physicians are invited to come in and look around.

For Ear, Nose and Throat Specialists

Of interest to physicians doing ear, nose and throat work, will be the display of the Storz Instrument Company, featuring several newly perfected models, as well as their tonsillectomes and a full line of ear, nose and throat instruments. Booth 222.

New Small Model of Zeiss Pantophos Operating Lamp

Carl Zeiss, Inc., calls particular attention to a new small model Pantophos Operating Lamp which is suitable for eye, ear, nose and throat operations, as well as for minor operative work. This exhibit in Booth 223 will include microscopes and accessories for laboratory and research work, and a selection of electrosurgical instruments for examining body cavities. Ophthalmologists will be interested in the Reflex-free model of the Nordenson Fundus Camera, apparatus for photographing the anterior segment of the eye, Slitlamp equipment, etc.

Complete Line of Fracture Equipment

The Zimmer Manufacturing Company will exhibit in Booth 306 a complete line of fracture equipment, including the Zimmer modification of the Kirschner Drill and Adjustable Wire Tractor, obtainable at a nominal price. Their simplicity and adjustment features aid very materially in the successful use of this technic. Other new numbers include the Comfort Clavicle and Improved Leg Splints, which have recently been creating considerable interest. Ask for a demonstration, which will be gladly given.

PHARMACEUTICALS AND BIOLOGICALS

Research Clinicians and Chemists in Attendance

Abbott Laboratories, including the Dermatological Research Laboratories and the Swan-Myers Divisions, will have a competent staff of their research clinicians and chemists at their exhibit in Booths 241, 242 and 243. On display will be motion transparencies showing the right and the wrong way to administer Ephedrine Inhalant "66", a graphic pollen incidence feature, brief illuminated statements concerning some of their products, and various specialties of the Laboratories.

Gland Preparations—from Abattoir to Patient

Armour & Company's exhibit in Booth 354 will be more than just a display of products. It will depict the sources of various pharmaceuticals, surgical ligatures, etc., in meat animals. With the vial of pituitary liquid will be shown the glands from which the substance is extracted. Thyroid glands from the throats of cattle, sheep and hogs will illustrate the source of many thyroid preparations. Concentrated Liver Extract, one of the most recent additions to the list, will be shown. Competent men will be in attendance.

Important New Therapeutic Agents

The Bilhuber-Knoll Corporation will display in Booth 221 a complete line of their Council accepted medicinal chemicals, including some important new therapeutic agents. In this exhibit will be shown regular trade packages of Theocalcin and of Metrazol; Lenigallol and Lenigallol-Zinc Ointment; Euresol, so widely used in scalp lotions; and Bromural, the sedative and hynotic that is neither a bromide nor a barbituric acid derivative. Representatives of the firm will be pleased to supply interested physicians with complete information on Bilhuber-Knoll products.

For Trigeminal Neuralgia

Physicians who have been baffled in finding relief for trigeminal neuralgia will be interested in the exhibit of the Calco Chemical Company, Inc., Booth 309. Here will be displayed Trichlorethylene-Calco ($CHCl:CCl_2$) in an original package of 21 silk wrapped frangible tubes of 1 cc. each, of the especially purified and stabilized therapeutic agent. This represents about one week's treatment for trigeminal neuralgia. The dosage and the correct method of administration will be explained.

Arm & Hammer Bicarbonate of Soda

Church & Dwight Co., Inc., which has specialized in the manufacture of soda compounds since 1846, will emphasize the purity of Arm & Hammer Soda and its availability at low cost, in Booth 279. The early American furnishings of the booth suggest the age of the company and the period in which it was organized. On the wall will be hung framed advertisements which have appeared in THE JOURNAL A. M. A., stressing the purity and usefulness in medicine of Arm & Hammer Bicarbonate of Soda.

Five Ciba Products to Be Featured

Among the products to be featured by Ciba Company Inc., Booths 260 and 261, are Digifoline, "Ciba"—a purified preparation of digitalis physiologically standardized; Lipoiodine, "Ciba"—iodine in a definite organic combination; Dial, "Ciba"—a non-narcotic sedative and hypnotic; Nupercaine, "Ciba"—the widely applicable local anesthetic of prolonged action; Atoquinol, "Ciba"—the antirheumatic, analgesic, antipyretic uric acid eliminant; and Vioform, "Ciba"—the non-irritating, antiseptic iodine dusting powder.

For Cardiologists and Neurologists

Of particular interest to cardiologists and neurologists are the pharmaceutical preparations displayed at Booth 92, where representatives of Davies, Rose & Co., Ltd., will be on hand to receive visiting physicians and discuss new therapies with them.

How Cod Liver Oil Can Be Concentrated

You are invited to visit Booth 298, where the Health Products Corporation will have an exceptionally interesting display of White's Cod Liver Oil Concentrate. Here you will find clearly demonstrated what is meant by the vitamin fraction (non-saponifiable fraction) of cod liver oil, which makes it easy to understand the principle of cod liver oil concentration. A number of reprints of good clinical studies on cod liver oil and cod liver oil concentrates will also be available.

Roche Takes New Step on Digitalis

Since the question of digitalis assay is more than ever to the fore now, and Hoffman-La Roche have just decided to declare cat unit potency on all dosage forms of Digalen, a visit to Booths 224 and 225 will be particularly worth while. Members of the scientific department will welcome discussions on this important step taken by Roche, which, if followed by other manufacturers, will lead to a realization of the hope of physician and pharmacologist of a digitalis therapy on a higher and more accurate plane than ever before. Other well known medicinal specialties and also biological chemicals will be on view in this exhibit.

To Discuss H. W. D. Products and Their Application

The well known products of Hynson, Westcott & Dunning will be found at Booths 269 and 270. Trained representatives will be at hand to discuss all phases of the nature and clinical application of these products.

Showing of Surgical Maggots

Solution Liver Extract Lederle for intramuscular use will be the central feature of the exhibit of the Lederle Laboratories in Booths 347 and 348. Not only will there be full information as to the advantages of this type of therapy, but there will be a demonstration of microscopic slides, showing various stages in pernicious anemia, and the regeneration of the red cells. Surgical Maggots Lederle will also be shown, as well as many other items that are available through the Lederle Laboratories.

Products of Lilly Research Laboratories

The exhibit of Eli Lilly and Company, Booths 212 and 213, will be confined chiefly to products whose origin or whose development in forms suitable for therapeutic use have been through the cooperation of the Lilly Research Laboratories. It will include Iletin (Insulin, Lilly) for the treatment of diabetes mellitus; Liver Extract No. 343, specific in pernicious anemia; Amytal and Sodium Amytal for hypnosis and sedation; Ephedrine preparations in their various forms for nasopharyngeal infections and the relief of bronchial spasm. Physicians from the Lilly medical staff will be in attendance.

One-Hundredth Anniversary of Discovery of Quinine

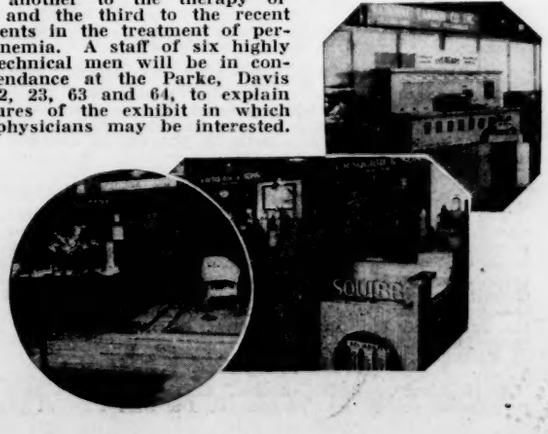
Since the year just passed marked the 100th anniversary of the discovery of quinine, it is appropriate that one of the features of the Merck & Company, Inc., exhibit will be a quinine display, including historical documents, Cinchona logs, quinine derivatives, and other interesting exhibits from all over the world. Booths 34, 328 and 329. Quinine was first manufactured in this country by Powers and Weightman, which later became Powers, Weightman and Rosengarten, and is now merged in the Merck organization.

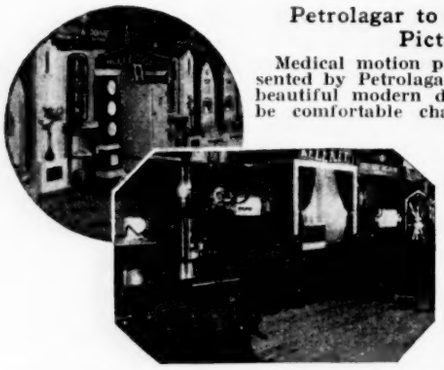
New Hemostatic for Topical Application

At Booth 267, the new hemostatic for topical application, Fibrogen Local-Merrell, will be exhibited by the Wm. S. Merrell Company. There will also be a demonstration of the process of extracting the tissue fibrinogen from fresh lung tissue, purifying it and sterilizing it by the method originally devised by Mills. The manufacture of natural sodium salicylate will also be illustrated in a diagram depicting each step from the gathering of the birch brush and the distilling of the natural birch oil to the finishing of the product.

Parke, Davis to Have Educational Exhibit

The Parke, Davis & Company exhibit has been planned with a view toward making it as educational as possible. There will be three main divisions, one devoted to antiserums, especially those of more recent development and introduction; another to the therapy of syphilis, and the third to the recent developments in the treatment of pernicious anemia. A staff of six highly trained technical men will be in constant attendance at the Parke, Davis Booths 22, 23, 63 and 64, to explain any features of the exhibit in which visiting physicians may be interested.





Petrolagar to Show Motion Pictures

Medical motion pictures will be presented by Petrolagar Laboratories in a beautiful modern display. There will be comfortable chairs where visitors may relax and devote uninterrupted attention to this splendid library of films of international reputation. The complete list comprises twelve exceptionally instructive subjects, for which presentations before accredited medical groups may be arranged for any place or any date without charge. Booths 226, 227, 228, 229, 265, 266 and 33.

Discussion of the Therapeutic Application of Radon

Experts for the Radon Company, Inc., will be in attendance at Booth 75 to discuss the therapeutic application of RADON in gold radon implants for interstitial radiation and radon tubes in topical and cavity conditions. There have been a number of new developments since the Philadelphia meeting, so a visit to this exhibit will be time well spent.

Improvements in Ergot and Calcium Medication

Sandoz Chemical Works, Inc., will be represented by men familiar with technical subjects and competent to answer questions concerning the five Council accepted preparations to be shown. A special feature of the exhibit will be the pioneer brand of calcium gluconate, a calcium salt suitable not only for oral and intravenous use, but also for intramuscular administration, an outstanding advantage. Another product of merit to be shown is Gynergen (Ergotamine), pure specific active principle of ergot. Booth 290.

New Pharmaceuticals by Searle

The display of the G. D. Searle & Company, Booths 239 and 253, will include a non-methylated and ether free line of Arsenicals; water-soluble Bismuth Sodium Tartrate (Searle) in aqueous solution; Procaine Borate, a non-toxic local anesthetic; Mercurochrome in stable solution for intravenous therapy, and Chiniofon in tablet form for the treatment of amebic dysentery.

Bismuth Antisyphilitic Featured by Squibb

Iodobismitol, the new bismuth antisyphilitic developed by Hanzlik, Mehrtens and co-workers, will be one of the products featured in the exhibit of E. R. Squibb & Sons. By means of illustrations and charts there will be shown the underlying pathological manifestations of certain vitamin deficiency disorders. Some results of recent investigations of the properties of the sex hormones will be shown as a part of the display devoted to glandular products. Squibb Arsphenamines will also be shown in this informative exhibit. Booths 291, 292, 293 and 294.

A New Vasoconstrictor

A most outstanding development in scientific medicine will be on display by Frederick Stearns and Company at Booth 216. This product is a new vasoconstrictor, Synephrin Tartrate, and is used for the relief of nasal congestion accompanying hay fever, rhinitis, and sinusitis. All dosage forms will be shown. Ask about the new service for the diabetic specialist, which will save his time by simplifying the matter of instructing his patients.

Diversified Display of Pharmaceuticals

Winthrop Chemical Company and H. A. Metz Laboratories will have a diversified display, including such features as clinical material on the treatment of syphilis with the Salvarsans, including Silver Salvarsan; a wide range of synthetic sedatives and hypnotics to meet various degrees and types of neurosis—Luminal, Adalin and Phanodorn (the new hypnotic); Suparenin, the synthetic epinephrine; Oscodal, the first cod liver oil concentrate; Novocain, including crystals for spinal anesthesia; Salyrgan and Theocin, the new diuretics, and Pyramidon, the valuable analgesic antipyretic. Booths 263 and 264.

X-RAY AND PHYSICAL THERAPY

More Efficient Apparatus for Light Therapy

Increased efficiency and greater beauty are the outstanding factors in the new and improved Ultra Violet, Infra-Red and Sunshine units featured in the Britesun exhibit, Booth 86. A representative of the firm will be pleased to explain the use of the various units.

Burdick's New Model D-2 Diathermy

The feature of the Burdick Corporation's exhibit, Booths 6 and 7, will be their new Model D-2 Diathermy, which physicians interested in diathermy work will wish to see and try. Most important among its many advantages listed are its high capacity (ample for any range of medical or surgical diathermy work), smoothness of currents and safety features. Burdick will also show the new improved Morse Wave Generator, Colonic Irrigator, and their full line of Quartz Ultra Violet lamps and Zoalite Infra-Red lamps.

New Simplified Respirator

J. H. Emerson will exhibit, in Booth 332, a new design of respirator, which was shown for the first time at the American Hospital Association convention in Toronto last October. This machine uses a large leather diaphragm in the foot end to produce variations in pressure, and is simple in construction throughout. It runs noiselessly, and has alternative hand operation in case of electric current failure. Also on display will be Emerson Portable Oxygen Tents, and a variety of research apparatus.

Super-Power Diathermy Shown for First Time

H. G. Fischer & Co., Inc., will have an assortment of improved electro-physical therapy devices in Booth 280. Their Super-Power Diathermy Unit (10,000 M. A. capacity) will be shown for the first time. They will also show their latest Surgical Diathermy Unit, Model "SD", a marvel of simplicity; a Combination Diathermy Coagulating and Electro-Surgical Tissue-Cutting Apparatus; a portable unit for tissue-cutting purposes only; and simplified and improved electrodes.

Resuscitation Apparatus and Gas Machines

The practitioner, the obstetrician, the respiration specialist and the anesthetist will each find something of interest in the Foregger Company's exhibit, Booth 102. On display will be the Guedel Oxygen Meter and Tent outfit, Henderson's and Flagg's Resuscitation Apparatus, O_2-CO_2 outfits to "make your own mixture," and various models of the Metric and the Gwathney gas machines in hospital, office and portable form. Included is the Metric Four, which has provisions for oxygen and carbon dioxide administration, postoperatively or as a resuscitative agent.

"The New Summer"

The Incandescent Lamp Department of the General Electric Company invites you to enjoy the "New Summer" to be found in Booths 51 and 52. Typical models of sunlamps employing General Electric MAZDA Sunlight lamps (Types S-1 and S-2) will be displayed. See the wall charts showing enlarged spectra of ultra violet radiation from the sun and from artificial sources; photographs showing sundry applications; and a spectroscopic set-up that lets you actually see the ultra violet rays as emitted by G. E. MAZDA Sunlight lamps.

New Developments in X-Ray

The General Electric X-Ray Corporation's exhibit will feature many new developments, including an electrosurgical knife, a self-contained Vertical Fluoroscopic Unit, a series of self-protective Coolidge Tubes (air and water cooled types), the Bucky Table with Hydraulic Tilt, and the Shock-Proof Motor Operated Fluoroscopic Unit. Also there will be on display a complete series of high milliamperage radiographs, one of the new series of Kenotron X-Ray Apparatus, the Victor Electrocardiograph, Physical Therapy Apparatus, and X-ray accessories and supplies. Booths 38, 39, 40, 41, 45, 46, 47 and 48.

Oxygen Therapy Apparatus

In Booth 56 the Heidbrink Company will exhibit not only a complete line of gas anesthesia apparatus, but also the latest developments in oxygen tents. Full information will be given any one interested in the newer devices for various applications of carbon dioxid-oxygen treatment, the success of which depends upon the accurate regulation of the carbon dioxid content of the various mixtures. This company has succeeded in producing apparatus which will deliver and indicate carbon dioxid in amounts as small as one gallon per hour.

Keleket X-Ray Units Have New Features

The Kelley-Koett Manufacturing Company promises to show in Booths 25, 26 and 27, some x-ray units that really have some new and exclusive features. The Power-Plus Unconditionally Guaranteed X-Ray Transformer will create a great deal of interest. Doctors will find ample reason to consider the safety and efficiency of the Saftescope, a new Keleket contribution. They will also want to see the popular "J. R. K. Model" Fluoroscopic Table that provides fluoroscopy in any position from Trendelenburg to vertical, or any intermediate angular position. Keleket representatives will be glad to explain these and other new developments.

New Solarium Oxygen Tent

The Oxygen Therapy Service, Inc., will display the Barach-Thurston Solarium Oxygen Tent, a new device never before exhibited at any medical meeting. It has several valuable features, such as the inclusion for the first time of "solarium" windows on all sides and in the top. The Barach Portable Oxygen Room, suitable for hospitals and homes, will also be shown. Booths 312 and 313.

Solarium Irradiation Units

The exhibit of the National Carbon Company, Booths 82 and 85, will consist of a complete demonstration of its new Eveready Carbon Arc Lamp. The solarium units are especially designed for group irradiation in hospitals and sanatoria. Complete apparatus will be installed showing the method of remote control and the simplicity of operation of these large units. Physicians will also have the opportunity of seeing the new professional model carbon arc lamp in operation and a demonstration of the flexibility of this lamp through the use of the various types of Eveready Therapeutic Carbons.

Shock Proof X-Ray Equipment

The joint exhibit of the Picker X-Ray Corporation and Waite & Bartlett X-Ray Manufacturing Company, Inc., will feature a complete line of shock proof x-ray equipment. Dr. H. F. Waite, president of the latter concern, is the inventor of oil immersed shock proof x-ray apparatus. Among the items to be exhibited is the shock proof fluoroscope, which is fully protected whether energized by its own power plant or connected to an overhead aerial system. Also a line of Waite valve tube rectified apparatus incorporating oil sealed rectification, a design exclusive in Waite equipment, will be shown. Booths 77, 78, 89 and 90.

Standard Portable X-Ray Machine Has New Features

The Standard X-Ray Company will have an unusually interesting display in Booths 87 and 88. The latest type valve rectified x-ray machines will be shown, as well as new x-ray tables and new dental x-ray machines. Of particular interest will be the new Standard Portable x-ray machine, which is provided with many features not heretofore found on apparatus of this type. The Standard Roentgenometer, the Instrument of Precision for measuring x-ray dosage in International "r" Units, will also be shown.

First Showing of X-Ray Apparatus

The Waller-Muller Company, distributors of the Muller Line Focus X-Ray Tubes and Apparatus, will have a first showing of Muller Shock Proof Diagnostic, Therapy Tubes and Apparatus. Also on display will be Metalix Senior X-Ray Unit, Metalix Junior X-Ray Unit, Dental X-Ray Unit, Automatic Exposure Device, Muller X-Ray Tubes, Metalix for Diagnostic and Therapy, Ferro-Chrome for Diagnostic, the latest type Ballistic Milliamperemeter, and large and small Hammer Dosimeters. Booth 1.

MISCELLANEOUS

Pioneer Medical Placement Service

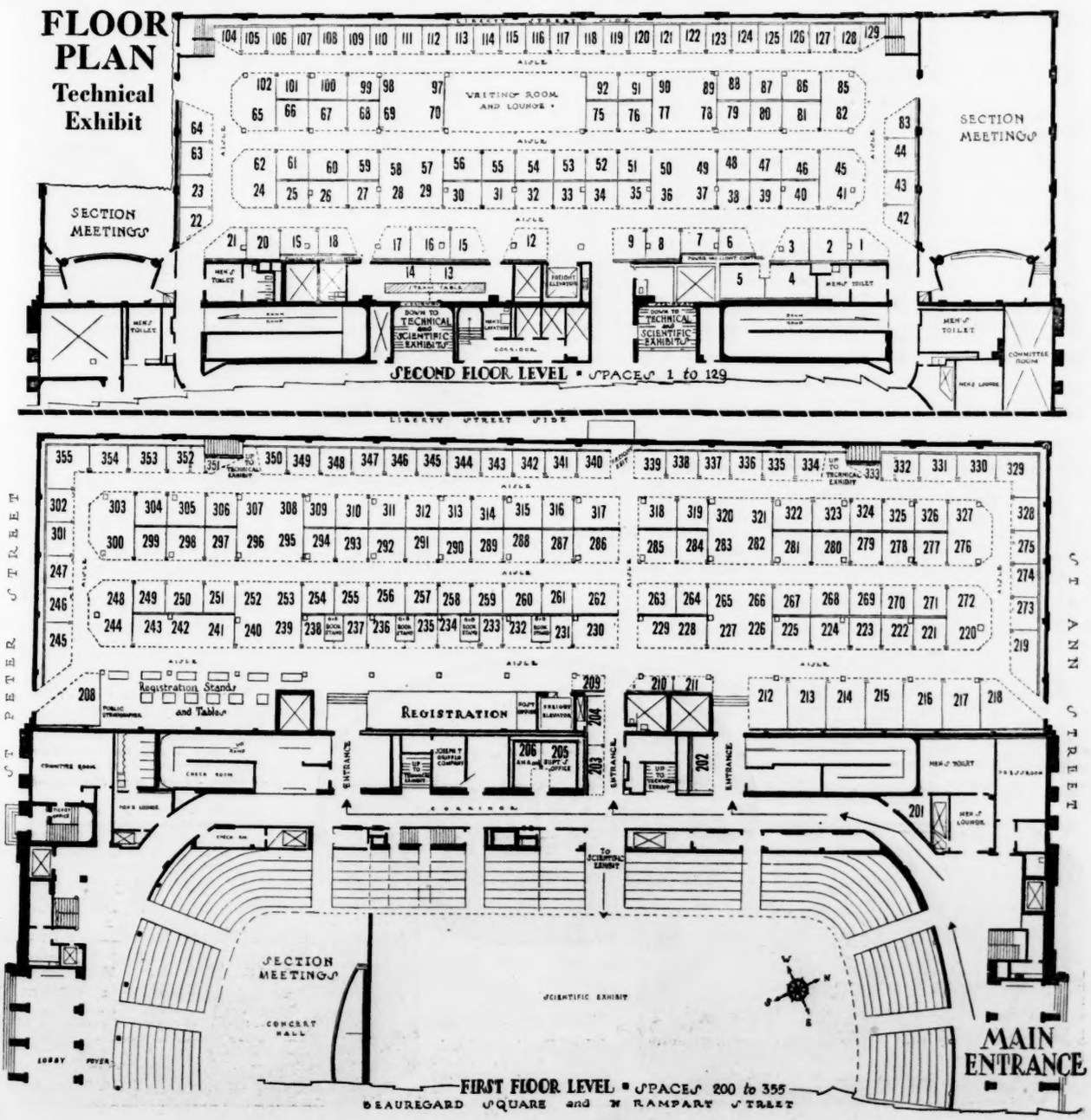
Aznoe's National Physicians' Exchange, in business since 1896, has an interesting story to tell of its activities since the bicycle days when securing a private duty nurse within twenty-four hours was real speed. Visit this exhibit at Booth 66 and learn how Aznoe's, now international in scope, furnishes the same quick, reliable, confidential means of contact for physicians who are seeking assistants or new opportunities for themselves.

Get Your Tube of Nivea Creme

The Beiersdorf Company invites you to get your tube of Nivea Creme at Booth 353, so you will be assured of shaving comfort and no after-effects of the hot sun while in New Orleans. During 1931, 12,803 physicians asked for it! Physicians' wives are also invited to get tubes of Nivea for their hand-bags, as it is a convenient size to use when traveling and will be sufficient for many uses of other creams and lotions.

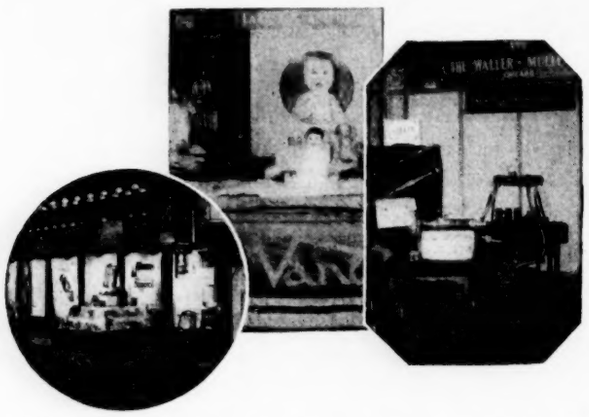
Water-Woolies for Tiny Tots

The Earnshaw Knitting Company's Vanta exhibit, in charge of Nurse Marian M. Hubbard, will show new developments in healthful clothing for the infant and the preschool child. These originators of the Sun Suit, the Self-Help garments and other improvements in baby underthings will introduce the Water-Woolie, a bathing suit of triple-ply wool fabric with a white inside layer so that no dyed fabric comes in contact with the skin. Air spaces between the layers insulate against sudden chill. The sterilized feature of Vanta infants' garments will be explained. Booth 321.



Showing of Ideal Baby Shoes

Mrs. Day's Ideal Baby Shoes will be shown in Booth 343. Miss Elizabeth Foster, Director of Medical Cooperation, will be glad to offer any assistance possible in solving your baby shoe problems. On display will be the proper shoes for all normal feet made in three different lasts, 22, 44 and 66, which take care of the baby from birth to about four years of age. Miss Foster will



be glad to explain the idea of the different lasts, and to show you how the trend in style is not overlooked in the scientifically constructed Ideal Baby Shoes.

"Baby-All" for Infant Feeding

The "Baby-All" Demonstration in Booth 100 will show how the baby's formula may be mixed at home with maximum protection to the infant, and the task reduced to a simple routine. You are invited to visit this exhibit of the Kitchen Katch-All Corporation and see how this problem of having your formula prescription followed accurately may be solved.

Tom Jones Drawings for Kotex Exhibit

An original series of life-size, colored anatomical drawings showing the changes that take place in the genital tract during normal menstruation will be displayed for the first time by the Kotex Company at Booth 202. Colored reproductions of these drawings by Tom Jones, and complimentary professional packages of the company's products will be given to medical visitors. Products to be featured will include the new handy-size absorbent tissue, Kleen-Wipes, Kleenex and Kotex. Informative literature on normal menstruation will also be available. Be sure to register.

Counsel on Placement Problems

In Booth 32, will be the exhibit of the Medical Bureau, an organization acting as counselor in problems of medical personnel to hospitals, administrators, clinic managers and executives in the medical field. The records of physicians who have specialized in the various branches of medicine, men and women interested in assistantships, accredited graduate nurses, laboratory technicians and dietitians, will be available to those interested in the completion or re-organization of their staffs.

Patients' History Record and Accounting System

The Medical Case History Bureau will display and demonstrate its system and complete line of filing cabinets in Booth 12. This is a patients' history record and accounting system endorsed and used by many of the foremost physicians in America. It can be used for every branch of medicine or surgery, giving outline histories for every specialty and recording every phase of office and home calls. You are invited to examine this system, and judge for yourself its fitness for your use.

Health Subjects of Interest to the Public

The response to individual magazine advertisements of the Metropolitan Life Insurance Company on Heart Disease, Periodic Health Examinations, Tuberculosis, Overweight, and other health and disease subjects as measured by the number of requests received for explanatory literature, will be presented in the Company's exhibit in Booth 255.

Famous Steamship Line Is Represented

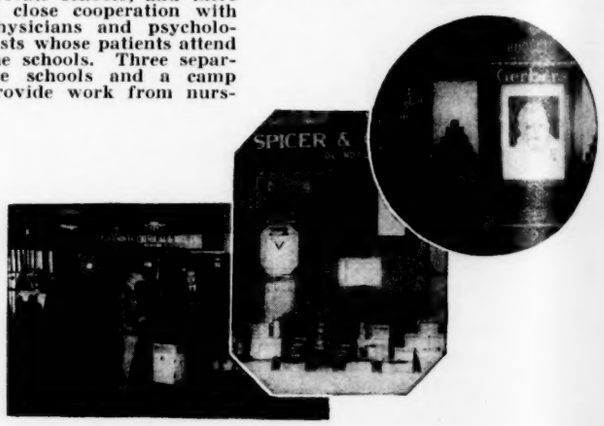
The North German Lloyd, founded in Bremen, Germany, 75 years ago, will have interesting literature to distribute, showing its progress throughout these years and its unexcelled service at this time. The two fastest and finest ships afloat, the *Bremen* and the *Europa*, speed across the Atlantic under the insignia of the Lloyd. If you are interested in a trip abroad, you will find information of interest to you at the Lloyd exhibit which has table space.

Moving Pictures of Colorado Springs

The Welcome Club of the Pike's Peak Region is a department of the Colorado Springs Chamber of Commerce. Its purpose is to extend the hospitality of the "City of Sunshine" to the stranger seeking the benefits of the dry, bright climate. It also informs the medical profession throughout the country of the advantages of that climate and of the services available to their patients. The Welcome Club's exhibit, Booth 121, will feature a moving picture film of scenes of Colorado Springs showing these points.

Schools for Children with Special Needs

The Woods Schools, of Langhorne, Pa., will have an exhibit in Booth 254. These are private, non-sectarian schools for children who cannot be happily trained in the ordinary public or private schools, and there is close cooperation with physicians and psychologists whose patients attend the schools. Three separate schools and a camp provide work from nurs-

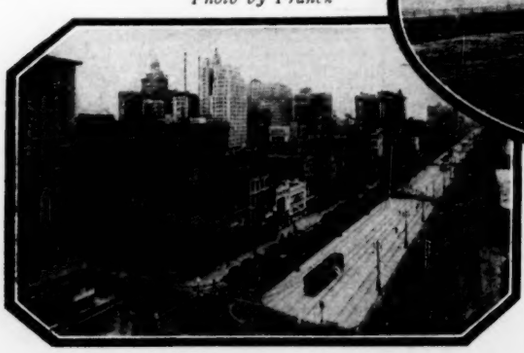


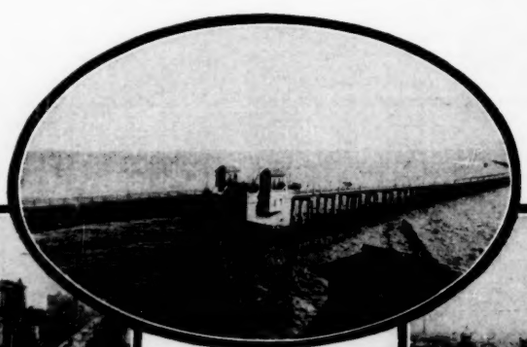
ery school through high school. In addition to academic subjects there are electives in the business course, agriculture, music, crafts, dancing and domestic science. The athletic program is adapted to all groups.

MODERN NEW ORLEANS

New Canal Street and the ever-growing skyline of the South's Greatest City. This 171 foot wide thoroughfare, one of the best illuminated streets in the Nation, has been termed America's most beautiful business street.

Photo by Franck





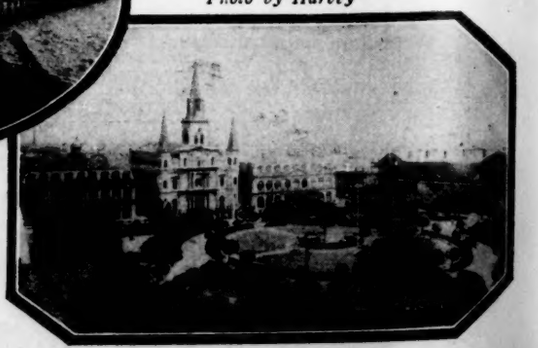
WORLD'S LONGEST CONCRETE HIGHWAY BRIDGE

The Pontchartrain Bridge along the old Spanish Trail; entering New Orleans from the East; completed in 1927.

HEART OF OLD NEW ORLEANS

The Place d'Armes, where the Mississippi Valley had its beginning in 1718, when this Place was laid out by Bienville; showing left to right, Cabildo, St. Louis Cathedral, Presbytery, Pontalba Apartment; in the foreground, Jackson Square and Monument.

Photo by Harvey



THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, APRIL 9, 1932

THE NEW ORLEANS SESSION

The American Medical Association will hold its eighty-third annual session in New Orleans, May 9 to 13. In this issue appear announcements of the features of the session and the preliminary programs of the various sections. This is the fifth time that the Association has convened in New Orleans. In 1869, the twentieth annual session met under the presidency of Dr. William Owen Baldwin. The period was just after the Civil War, and the session did much to bring the members of the medical profession in the South into cordial relationship with the national association. Sixteen years passed, and a meeting in 1885 was held in New Orleans under the presidency of Dr. Henry F. Campbell. Eighteen years later (1903) the Association met for the third time in New Orleans, the presiding officer being Dr. Frank Billings. On the fourth occasion, in 1920, the session was opened under the presidency of Dr. Alexander Lambert of New York, and Dr. William C. Braisted, Surgeon General of the Navy, was inducted into the office of President. The period was just after the World War.

For the fifth time now the Association convenes in the Crescent City. Eleven years has passed since the last session in that city. The period has seen great changes in the nature of medical practice. The attention of physicians is focused strongly on economic problems; a consideration of such problems will be a feature of a symposium between the sections on Practice of Medicine and on Preventive Medicine. The importance of drug addiction as a world problem is recognized in two clinical lectures in which the secretary of the Committee on Narcotics of the League of Nations and the officer of the United States Public Health Service chiefly interested will take part.

In the Scientific Exhibit special demonstrations will occur daily, having to do with cancer, with infantile paralysis, and with the uses of physical therapy, three topics now of prime interest to the practicing physician.

New Orleans offers exceptional opportunities for a closely knit and intensive session. Practically all of the sections are housed in close proximity to the great technical and scientific exhibits. The exhibits are themselves closely related to the papers to be read in the various sections, and motion picture demonstrations of work brought before the sections will be a continuous feature of the scientific exhibit.

The great city of the South is noted throughout the world for its history, its scenic qualities and its social features. The restaurants of New Orleans have an international reputation. About the city are numerous resorts offering opportunity for fishing, boating and golf. The weather, it is promised, will be salubrious, and records of the temperature for many years indicate that the promise is supported by what may be called well established scientific evidence. New Orleans is proud of its repute for hospitality, and it offers a warm welcome to all who will attend the coming session of the Association.

RAW VERSUS PASTEURIZED MILK

The nutritive virtues of milk and milk products have for many years received wide acclaim in this country. There are, however, certain questions in relation to milk that many physicians are likely to have propounded to them repeatedly. The debate about the comparative values of the mammary secretion from different breeds no longer attracts attention to any considerable degree. One of the frequent queries relates to the possible choice between raw and pasteurized milks.

In a recent monthly bulletin of the New Haven Department of Health, Mendel[1] of Yale has pointed out certain sanitary aspects of the problem. That raw milk may carry possibilities of harm from disease-producing micro-organisms with which it may become contaminated under current working conditions in the dairy industry is evident, he says, from recorded experience. It is generally admitted, furthermore, that this menace may in large measure be averted by pasteurization under properly controlled conditions. The possibility of securing "safe milk" through elaborate sanitary control of the entire process of marketing milk may be admitted; but at present the necessary procedures are too elaborate and costly, says Mendel, to make certified milk or other raw milk of equal freedom from objectionable bacterial contamination available to more than a limited number of persons, even if its use were preeminently desirable. The truth of these conclusions is all the greater during a period of stress like the present when funds for food purchases are often at a low ebb in many families. One may properly ask whether the use of milk made bacteriologically safer by proper pasteurization is detrimental in other ways.

Almost every mother has been taught that pasteurized milk, and perhaps preferably all milk, should be supplemented with some antiscorbutic, such as orange juice

1. Mendel, L. B.: The Problem of Pasteurized Milk, Health **58**: 3 (Sept.) 1931.

or tomato juice. In other respects pasteurized milk seems to possess parity with the unheated product, if we may believe the latest studies at the Ohio Agricultural Experiment Station.[2] Comparable animals particularly sensitive to nutritive deficiencies were fed under precisely similar environmental conditions with milks from a constant source of supply. The milk furnished to one of the groups was pasteurized. The assertion that pasteurizing destroys some of the calcifying properties of milk was not substantiated. There were no differences in growth. The Ohio investigators therefore assert that, until further evidence to the contrary is available, no alarm need be felt over the nutritive value of present pasteurized milk supplies.

HOSPITALIZATION OF BABIES WITH OPHTHALMIA NEONATORUM

Endeavor for years to help the blind has caused the New York State Commission for the Blind to recognize that its chief responsibility is in the prevention of blindness. Recently a special department was organized for this purpose. The state-wide program emphasized the education of professional workers in the fields of health and education, sight conservation work for school children, and the reduction of blindness in infants.

In a review of the work of the first three years [1] it is noted that cases of ophthalmia neonatorum have been followed up by the commission after an initial visit was made by the state department of health. One hundred and sixty-three cases of ophthalmia neonatorum were registered during the three year period. In the first year, seven babies became blind, and in the last of the three years, none. Credit for the record of the last year is given largely to the state department of health. The Commission for the Blind found the weaknesses in its former procedure of handling these cases and has endeavored to correct them. The commission petitioned the legislature for a fund with which to provide emergency hospitalization for cases of ophthalmia neonatorum, pending the making of arrangements with responsible officials. Previously, some babies with ophthalmia neonatorum had neither been hospitalized nor provided with adequate nursing at home. With this fund, the commission now can and will provide immediate hospitalization for such infants and, in special cases in which the parents refuse to allow the baby to go to a hospital, will meet the expense for a special nurse in the home. The commission will not assume the constant expense for hospital care for these babies but, pending arrangements through the responsible sources, will underwrite the expense so that the baby may without any delay be provided with hospital care or special nursing in the home. Permission will be granted by telephone or telegraph and, if the office of the commission cannot be reached at any time, the baby may first be sent to the hospital and notification made to the office of the commission later.

In reviewing the 163 cases registered, the loss of vision that occurred in some was attributed to: (1) failure to use a prophylactic at birth; (2) too little effort to hospitalize these cases; (3) discharge of the patient from the hospital before obtaining two negative smears; (4) failure to recognize the danger of an infected eye when the smear is not positive; (5) lack of consultation with ophthalmologists, even though positive smears were obtained. An unusual number of cases of ophthalmia neonatorum have been reported to the State Commission for the Blind since the first of the present year. In order to prevent, if possible, any additional cases of this type of blindness in these infants, the commission has arranged for immediate hospital care. It further recommends that all cases of ophthalmia, whether gonorrheal or not, be reported to the state health department. Furthermore, supervision and treatment of the mother must be undertaken if she is infected with gonorrhea, so that her baby of any future pregnancy may be safeguarded.

2. Krauss, W. E.; Erb, J. H., and Washburn, R. G.: Raw Versus Pasteurized Milk: I. Anemia Development, Growth and Calcification, Bull. 154, Ohio Agricultural Experiment Station, January-February 1932, p. 3.

1. Harper, Grace S.: Responsibility of New York State to Prevent Blindness, Sight-Saving Review, September, 1931.

Current Comment

METABOLISM OF STEROLS

The striking demonstration of the therapeutic value of viosterol during the last few years, together with the recent crystallization of vitamin D, has served to turn attention again to the physiologic ativity and the chemical transformations exhibited by this class of substances in the organism. Whereas cholesterol, first isolated from gallstones, is quantitatively the most important representative of the sterols in the animal body, there are several well characterized members of this group occurring in plants. The chemical and physical properties of the sterols, together with their ubiquitous distribution in cells, render difficult the problem of determining their indispensability to the organs or of demonstrating the nature of their metabolism. Of considerable interest, therefore, is a recent summary by Schoenheimer [1] in which certain experimental facts are presented and an interpretation offered. As the plant sterols in foods do not seem to be absorbed by animals, the question arises of the origin of cholesterol, especially in herbivora. The available evidence indicates that cholesterol is synthesized in the animal body. Ergosterol is no exception among the plant sterols and is not absorbed from the intestinal lumen. After irradiation, however, it is readily utilized, as indicated by the effects of its administration. Cholesterol is excreted into the intestine largely through the bile and there is reduced to coprosterol. An isomer of coprosterol, dihydrocholesterol, also appears in the

1. Schoenheimer, R.: Science 74: 579 (Dec. 4) 1931.

feces, not only under normal conditions but also on fat free diets during fasting and when bile is prevented from entering the intestine. It does not occur in food nor is it formed in the intestine, but it is apparently excreted by the intestinal epithelium. Antirachitic effects are produced by direct irradiation of the body; therefore ergosterol must normally occur in the skin or immediate subcutaneous tissues, an assumption rendered likely by the demonstration by Eckstein and Wile [2] that human skin is relatively rich in sterols. It appears, then, that cholesterol in its metabolism is reduced to dihydrocholesterol and at the same time desaturated to form ergosterol, the two processes probably being interdependent. In view of the demonstrated significance of ergosterol in mineral metabolism and of cholesterol in the origin of the bile acids, further evidence in support of the foregoing hypothesis will be awaited with considerable interest.

2. Eckstein, H. C., and Wile, U. J.: J. Biol. Chem. **67**: lix (Feb.) 1926.

OUR INTESTINAL PARASITES

One of the favorite arguments of the advocates of the vegetarian regimen is the well supported evidence that, if there is a fairly liberal consumption of milk, milk products, cereals, breads, fruit and vegetables, the inclusion of meat in the diet no longer is necessary. Such a dietary plan is, strictly speaking, lactovegetarianism. The complete exclusion of all foods of animal origin, in contrast with lactovegetarianism and ovovegetarianism, is not quite so readily accomplished with equal satisfaction. The vegetarian enthusiast rarely fails to call attention to certain menaces in flesh foods, among them muscle or gland parasites, which only rigorous food inspection and thorough cooking can make harmless. It may come as a surprise to the devotees of the strict vegetarian cult to learn that in the matter of intestinal parasitic invaders there are protozoan species, at least, that seem to thrive best in an alimentary medium produced by starch, the characteristic carbohydrate of plant foods. In his vice-presidential address before the American Association for the advancement of Science in New Orleans, last December, Professor Hegner [1] of Johns Hopkins University pointed out that there is an interesting relation between certain intestinal protozoa and the character of our diet. Meat-eating animals are not ordinarily infected with them, but vegetarians are highly parasitized. Animal proteins, notably the casein of milk, are effective in preventing infection. A diet consisting largely of this foodstuff soon brings about a decrease in the number of certain organisms and often leads to their total elimination. Starch, on the other hand, provides a favorite article of food and results in enormous increases in certain alimentary protozoa. The results of appropriate changes in the diets of human patients suffering from digestive disturbances due to some of these microbiotic forms has been striking. Incidentally, Hegner has reminded us of what a "menagerie" we may become. In addition to mouth-inhabiting amebas and flagellates, there are at least ten different species of protozoa that live in the large intestine. In some regions, as high as 50 per cent of the general population may be infected. All but a few of us, says Hegner, have been furnishing a residence and a food supply for various parasites without being aware of it.

1. Hegner, R. W.: How the Other Half Live, Science **75**: 225 (Feb. 26) 1932.

PLANT HORMONES AND BACTERIAL GROWTH

That the rootlets of certain higher plants function as specialized endocrines, initiating, stimulating and inhibiting somatic growth, is now generally accepted by plant physiologists.[1] Like the hormones of higher animals, these internal secretions derived from rootlets are apparently nonspecific for the plant species and therefore may conceivably find numerous practical applications in bacteriologic technic, bacteria being currently regarded as unicellular plants. Hoder and Breuer [2] of the University of Prague assert that the addition of as little as 0.05 cc. of a certain plant juice to a routine agar plate is at times sufficient to cause a luxuriant growth of pathogenic micro-organisms which do not give demonstrable growth on control plates. The bacterial growth-stimulating factor in this plant fluid is thermostable, resisting boiling for half an hour, and therefore can be readily sterilized. The growth factor is apparently not identical with any known vitamin.

1. Went, F. W.: Wuchsstoff und Wachstum, Recueil des travaux botaniques néerlandais **25**, 1928.
2. Hoder, F., and Breuer, A.: Ztschr. f. Immunitätsforsch. **70**: 279, **71**: 384, 1931.

IMMUNITY TO POLIOMYELITIS

There is increasing difficulty in harmonizing the known facts of the epidemiology of poliomyelitis with the historic belief that adult immunity to this disease is specific and can result only from previous personal contact with the specific virus.[1] Some observers have denied this specificity and have suggested that immunity to poliomyelitis is but part of a general "serological ripening" roughly synchronous with the development of sexual maturity. Proponents of this theory, however, have not lost sight of the fact that such a nonspecific immunity is not the only conceivable method of immunization to poliomyelitis which does not necessitate previous personal contact with the specific virus. About seven years ago Heidelberger and his co-workers [2] of the Rockefeller Institute showed that the characteristic antigenic sugar of type II pneumococcus is also found in the Friedländer bacillus. Similar chemical relationships have been shown to exist in other organisms. Recently Zozaya [3] has alleged that a sugar of at least approximately the same antigenic potential as the characteristic polysaccharide of the meningococcus is demonstrable in Bacillus anthracis, and, even more surprising, is present in such common saprophytes as B. proteus, B. subtilis and B. mesentericus. Whether or not an habitual diet rich in these saprophytes can function as a successful fractional oral vaccine against

1. Abortive Poliomyelitis, editorial, J. A. M. A. **98**: 405 (Jan. 30) 1932.
2. Heidelberger, M.; Goebel, W. F., and Avery, O. T.: J. Exper. Med. **42**: 701, 709 (Nov.) 1925.
3. Zozaya, J.: J. Exper. Med. **54**: 725 (Nov.) 1931.

meningitis has not yet been determined. The corresponding pneumococcus polysaccharides, however, have been shown to be resistant to gastro-intestinal enzymes. There is well confirmed laboratory and clinical evidence [4] that they are absorbed from the gastro-intestinal tract in sufficient quantities to function as successful oral vaccines.

Association News

MEDICAL BROADCAST FOR THE WEEK

American Medical Association Health Talks

The American Medical Association broadcasts on Monday from 12 noon to 12:05 p. m. over Station WBBM (770 kilocycles, or 389.4 meters) and other stations of the Columbia Broadcasting System, and on Wednesday and Friday from 2:25 to 2:30 p. m. over Station WBBM, Chicago.

The program for the week is as follows:

April 11. House-Cleaning the World Around.
April 13. Sport for Health's Sake.
April 15. Food Poisoning.

There is also a fifteen minute health talk sponsored by the Association on Saturday from 11:15 to 11:30 a. m. over Station WBBM, Chicago.

The program for the week is as follows:

April 16. Those Glasses We Wear.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CALIFORNIA

Violations of Health Laws. — The bulletin of the state board of health recently noted that a number of persons who persistently violate quarantine laws have been prosecuted in Salinas. The successful prosecution by the health officer of Los Angeles County of a physician who has persistently failed to report cases of communicable disease and who has also failed to register births was also reported. This physician was arrested on the charge of failure to report a case of tuberculosis and was sentenced to pay a fine of $100, of which $25 was paid in cash and the remainder suspended. He was placed on probation.

Outbreak of Rabies.—During the past few weeks, rabies has become an important problem in several communities of California. The state health department reports recent outbreaks in Fresno, Merced, Tulare, Contra Costa and Imperial counties. In Merced County, in January, a stray dog bit a dog and four puppies owned by a woman in LeGrand. Several weeks later these animals showed symptoms of rabies, and died. The owner was bitten by the mother dog, and thirteen other members of the family came into close contact with either the dog or the infected puppies. The woman who owned the animals became ill, about February 29, and died, March 3. During her illness, typical symptoms of rabies were observed. As a result of this outbreak thirty-eight people who were bitten or who were in close contact with infected animals are now receiving the Pasteur treatment at the expense of the county. Eight cases of rabies in animals have occurred in Tulare County since February 10. Eleven persons who were bitten by these rabid dogs are taking treatment. In Fresno County, twelve persons are receiving Pasteur treatment. In Imperial County, fourteen people are undergoing Pasteur treatment. Rabid dogs have also been found in Contra Costa and Sacramento counties. Of the 800 cases reported in California in 1931, 516 were in Los Angeles County; of the 929 cases reported in 1930, 615 were in Los Angeles County. During recent months there has been a decline in the number of cases reported from that county. The total for 1930 was the largest number ever reported during a single year in the history of the state.

4. Oral Immunization Against Pneumococci, editorial, J. A. M. A. 95: 1024 (Oct. 4) 1930.

CONNECTICUT

Student Health at Yale University.—The Department of University Health, Yale University, New Haven, made 5,322 routine examinations of students during the academic year 1930-1931, as compared with 5,221 the previous year, according to the annual report of its director, Dr. James C. Greenway. There were 30,973 consultations as compared with 27,710 the preceding year. For the first time all the health supervision is now carried on under one roof except hospital care, orthopedic examination of freshmen and care of medical students. There were 757 admissions to the infirmary with a total number of 2,477 infirmary days, an average stay of 3.3 days as contrasted with 3.1 the preceding year. The increase was due to a threatened epidemic of influenza. This was the first year that the division of student mental hygiene had functioned in close and continuous association with the department. Out of 209 new patients who sought the division, 71 were voluntary; 46 became patients at the time of the routine health service contact, while an additional 17 were referred either by other patients or by friends. These figures indicate that out of 209 patients 134, or 64 per cent, came to the division as the result of direct contact between the division and the student, no other referring agency coming in between. In the freshman class, 568 men were assigned to the corrective group; of these, 66 were excused. No deaths occurred in the student body during the college year reported.

DISTRICT OF COLUMBIA

Dr. Hrdlička to Give Kober Lecture.—Dr. Aleš Hrdlička, curator of physical anthropology, Smithsonian Institution, Washington, will deliver the annual Kober lecture, April 11, at Georgetown University School of Medicine, on "Disease, Medicine and Surgery Among the American Aborigines." The Kober lecturer is selected for noteworthy contributions to progress and achievements in the medical sciences, under the terms of a foundation for the promotion of scientific research in medicine endowed in 1923 by the late Dr. George M. Kober, who died last year. In 1927, Dr. Hrdlička was awarded the Huxley Medal of the Royal Anthropological Society of Great Britain and Ireland.

FLORIDA

Dr. Oppenheimer Made Honorary Life Member. — Dr. Louis S. Oppenheimer, Tampa, was made the first honorary life member of the Hillsborough County Medical Society, March 11. In behalf of the society, Dr. John S. Helms, master of ceremonies, presented a watch with a card case and chain to Dr. Oppenheimer. Engraved on the watch was the inscription "Presented to Doctor Louis S. Oppenheimer, March 11, 1932, by members of the Hillsborough County Medical Society, in admiration of their first life member." More than 100 physicians attended the dinner. Dr. Oppenheimer has practiced in Florida about forty years.

Society News.—The Central Florida Medical Society was addressed, February 25, by Dr. Louie M. Limbaugh, Jacksonville, on "Childhood Type of Tuberculosis."——Dr. Leroy W. Hubbard, Warm Springs, Ga., talked on poliomyelitis: its aftercare and treatment by suitable exercises under water, before the Pinellas County Medical Society, February 25. Dr. Hymen L. Weber, director of Presbyterian Missions, West Africa, exhibited three reels of moving pictures.——Dr. Wilbur A. McPhaul has been appointed head of the recently formed public health unit of Pensacola, effective March 1. Dr. McPhaul has been health officer of Charlotte, N. C., for eleven years.

ILLINOIS

Children in Ford County Immunized.—During October, 1931, toxoid for immunization against diphtheria was given to 1,919 children in Ford County. Early in February, 1,468 of these children were given the Schick test and in only 21 cases, about 1.5 per cent, were the results positive.

The Amount of Syphilis.—During 1931 there were 19,813 cases of syphilis reported to the state department of public health, making an average of one case for every six births recorded in that year. Of all tests made in the diagnostic laboratories of the department, 71 per cent, or 92,792 tests, related to syphilis. About one in five of the tests was positive.

Society News.—Dr. Walter L. Bierring, Des Moines, Iowa, discussed "Coronary Artery Disease" before the McLean County Medical Society, Bloomington, March 15.——At a meeting of

the Greene County Medical Society in Carrollton, March 11, Dr. Andrew B. Jones, St. Louis, among others, spoke on "Acute Disseminated Encephalomyelitis."——The Franklin County Medical Society sponsored a tuberculosis clinic, March 24; the speakers were Drs. Alfred Goldman and Duff S. Allen, St. Louis, who discussed "Medical Phases of Pulmonary Tuberculosis" and "Tuberculosis from the Surgical Point of View," respectively.——Dr. Drew W. Luten, St. Louis, gave the principal address before the Williamson County Medical Society, March 10, on heart conditions.

Certification of Milk Plants.—Certification for 1932 has been granted by the state department of health to 331 of the 364 milk pasteurizing plants in Illinois outside of Chicago and is being withheld temporarily from twenty-three pending the completion of changes made necessary in order that the plants may comply with the minimum sanitary requirements for certification. The ten remaining plants did not apply for a renewal of certification, and the department has turned over to the local state's attorneys the facts with a request that proceedings be started to enforce compliance with the law which forbids the sale of milk as a pasteurized product by uncertified plants. As a part of the requirements for certification, 3,077 employees of the milk pasteurizing companies have been medically examined since January 1.

Chicago

Dr. van Dyke Goes to China.—Dr. Harry B. van Dyke, professor of pharmacology, University of Chicago, has been appointed professor and head of the department of pharmacology at Peiping Union Medical College, Peiping, China, effective about August 1. Dr. van Dyke has been on the faculty of the University of Chicago since 1924. Recently he has been conducting research on sex hormones under a grant from the Hertz Fund.

Dr. Colwell Honored.—Dr. Nathan Porter Colwell, for many years secretary of the Council on Medical Education and Hospitals of the American Medical Association, was presented with an engrossed testimonial at a recent luncheon of the Federation of State Medical Boards of the United States, in recognition of his services to the federation during the twenty years of its existence. Dr. Colwell was a member of the committee on organization of the federation and proposed its present name, which was adopted at the first meeting, Feb. 29, 1912. With the first issue of the *Federation Bulletin*, in April, 1915, he became the managing editor. He recently retired as secretary of the Council on Medical Education and Hospitals.

Dr. Krause Gives Sachs Lectures.—The Theodore B. Sachs resident lectures in tuberculosis at the University of Illinois College of Medicine will be given this year by Dr. Allen K. Krause, director, Desert Sanatorium, Tucson, Ariz. Dr. Krause was formerly associate professor of medicine at Johns Hopkins University Medical School and director of the Kenneth Dows Institute for the Study of Tuberculosis, Baltimore. During his stay, Dr. Krause's program will be as follows:

April 18—Dinner by the Chicago Tuberculosis Institute in honor of Dr. Krause.
April 19—Clinic for senior medical students at the university.
April 20—Con oint meeting, Institute of Medicine and Research Club at the university.
April 22—Clinic for junior medical students.
April 25—Lecture for First District Nurses Association.
April 26—Clinic.
April 27—Clinical conference.
April 29—Clinic for junior medical students.

The Theodore B. Sachs lectureship at the University of Illinois College of Medicine is endowed by the Chicago Tuberculosis Institute. The public is invited.

IOWA

Hospital News.—The new $100,000 Lutheran Hospital at Fort Dodge has been officially opened to the public and is now receiving patients.——A $20,000 addition to the University Children's Hospital, Iowa City, was recently completed. The new wing will house the orthopedic clinic, dental clinic, drug department and business office.

Physicians Organize to Care for Indigent Sick.—Physicians of Belle Plaine, organized as an association, recently entered into a contract to render medical services to the indigent of Belle Plaine and Iowa township for an annual sum of $1,200. Dr. George W. Yavorsky is president of the new organization, and Dr. Nathan B. Williams, secretary. The Guthrie County members of the Dallas-Guthrie Medical Society have also entered into a contract to care for the indigent sick. They will be paid an annual sum of $2,537.32 by the board of supervisors.

Society News.—Dr. John H. Peck, Des Moines, was reelected president of the Iowa Tuberculosis Association at its recent annual meeting in Burlington. The next session of the association will be held in Council Bluffs in 1933.——Col. George A. Skinner, U. S. Army Medical Corps, Omaha, will address the Linn County Medical Society, April 14, in Cedar Rapids, on "Importance of the Medical Profession in the Scheme of National Defense." Carl R. Moore, Ph.D., Chicago, will address the society, May 19, on "Reactions and Function of the Testicle: Rejuvenation."——Dr. Albert Kuntz, St. Louis, addressed the Des Moines Academy of Medicine, March 28, on "Visceral Sensitivity and Referred Pains," and Dr. Edwin B. Winnett, Des Moines, "Complications of Diabetes Mellitus."——Dr. Jay Arthur Myers, Minneapolis, will address the Fifth Councilor District Medical Society at Boone, April 13, on "Tuberculosis in Childhood."——The Scott County Medical Society was addressed in Davenport, March 1, by Drs. Daniel J. Glomset, Des Moines, and Kenneth V. Francis, Iowa City, on "Bright's Disease" and "Hereditary and Environmental Influences on Children," respectively.

KENTUCKY

Hospital News.—Norton Memorial Infirmary, Louisville, was reopened in January in its new building after having been closed for seven months for reconstruction. The capacity of the hospital has been increased from 100 to 142 beds and from 12 to 25 bassinets. The new building is five stories high. The hospital is providing outpatient service, which is said to be a new departure for private hospitals in that city. The hospital is now affiliated with the University of Louisville School of Medicine and the majority of its staff are members of the university faculty.

Society News.—A symposium on lobar pneumonia was presented at the meeting of the Jefferson County Medical Society, Louisville, March 7, by Drs. James Murray Kinsman, Hugh R. Leavell, Walter F. Boggess and Sydney E. Johnson. Dr. Quitman U. Newell, St. Louis, was the speaker, March 21, on "Importance of Early Recognition of Uterine Cervical Carcinoma."——Dr. Jacob N. Bailey, Paducah, addressed the Christian County Medical Society, Hopkinsville, March 15, on treatment of empyema.——Dr. Ralph F. Massie, Ironton, Ohio, addressed the Greenup County Medical Society, Greenup, March 11, on "Successful Care and Treatment of Varicose Ulcers."

MARYLAND

Exhibition of Books on Tuberculosis.—A special exhibition of books and other material relating to Robert Koch and to tuberculosis will be held in the Welch Medical Library, Johns Hopkins University Medical School, April 11-18, as a part of Baltimore's observance of the fiftieth anniversary of Koch's announcement of his discovery of the tubercle bacillus. Dr. Henry Barton Jacobs will display books. Dr. William H. Welch, director emeritus of the Institute of the History of Medicine at Johns Hopkins, will give reminiscences of Koch, with whom he worked in Germany. The Laënnec Society for the Study of Tuberculosis is sponsoring the celebration in cooperation with the Osler Historical Society and the Johns Hopkins Medical Historical Society.

Society News.—Dr. Claude S. Beck, Cleveland, addressed the Johns Hopkins Medical Society, February 8, on "Surgery of the Pericardial Scar and the Relation of Pneumocardiac Tamponade to the Surgery of the Chest."——The Baltimore City Medical Society was addressed, March 4, by Drs. Edward A. Kitlowski on "Treatment of Old Unhealed Burns"; Thomas B. Aycock, "Combined Phrenic Exeresis and Scaleniotomy: A Recent Form of Collapse Therapy," and Joseph E. Moore, "Treatment of Cardiovascular Syphilis." The society was addressed, March 18, by Drs. Henry M. Thomas, Jr., and John Eager Howard on "High Carbohydrate Diet in Diabetes"; Howard L. Cecil, "Adrenal Tumors with Reference Especially to the Cortical Type," and Hugh H. Trout, Roanoke, Va., "Concretio Cordis."——Dr. Randolph Winslow, Baltimore, among others, addressed the Osler Historical Society of the Medical and Chirurgical Faculty of Maryland, March 15, on "Philip Syng Physick, Father of American Surgery."——The Baltimore County Medical Society was addressed, March 16, by Dr. Charles S. Levy, Baltimore, on "Diagnosis of Gonorrhea in Women from the Urologist's Standpoint." Dr. Charles A. Waters, Baltimore, demonstrated with lantern slides "The Clinical Value of Newer X-Ray Methods in Diagnosis."——The appointment of Dr. Katharine A. Chapman as health officer of Kensington, February 3, has been announced.

MASSACHUSETTS

Society News.—Dr. Alvin F. Coburn, New York, gave a lecture on "Clinical and Anatomic Findings in Fulminating Rheumatism" at the Boston Medical Library, March 18.——The Essex South District Medical Society was addressed, February 10, by Drs. Lincoln F. Sise and Harry H. Germain, Boston, on "Selection of the Anesthetic for the Patient and Operation."——At the annual meeting of the Boston Health League, February 25, Dr. Francis X. Mahoney was elected honorary president, and Dr. John W. Bartol, president. Dr. Charles F. Wilinsky is the secretary. Louis I. Dublin, Ph.D., New York, was among the speakers.——Dr. Walter B. Cannon, Boston, addressed the William Harvey Society, March 11, on "Vivisection and Animal Experimentation."

"Cured" Cancer Cases.—One hundred and seventy-five cases of cancer without symptoms for a certain period following treatment by surgery or radiation were shown at special clinics held in Boston, April 5-6, under the auspices of the cancer committee of the Massachusetts Medical Society, the Massachusetts branch of the American Society for the Control of Cancer, and the Massachusetts Department of Public Health. This number of cases shown does not represent the number of cured cases under observation, the announcement states, but merely the number that could be shown during the limited clinic session. All of the cases presented at the clinic were those in which no return of symptoms during a certain period had been noted. The types offered were varied and included carcinoma of the bladder, the urethra and the tonsil. Among the physicians participating in the "Cured Cancer Clinics" were Drs. Harry F. Friedman, Robert B. Greenough, Timothy Leary, William P. Graves, Simeon B. Wolbach, Channing C. Simmons, Ernest M. Daland and Daniel F. Jones. At the public meeting, April 6, Gov. Joseph B. Ely spoke on "The State Program"; Mayor James M. Curley, "Boston's Interest in the Program"; Dr. Ray Lyman Wilbur, secretary of the interior, Washington, D. C., "An Informed Public as a Prerequisite to Any Program," and Dr. Joseph Colt Bloodgood, Baltimore, "The Cure of Cancer." Dr. George H. Bigelow presided. At a meeting for physicians and dentists, April 5, Dr. James Ewing, New York, among others, made an address entitled "What Can the Medical Profession Do About Cancer?"

MICHIGAN

Graduate Courses.—The fourth annual program of courses for graduates is announced by the Michigan State Medical Society and the University of Michigan Medical School, Ann Arbor. The practitioners' course in medicine, surgery, obstetrics and pediatrics to consist of seventy-two hours, will be held, June 6-18; course in proctology, June 6-18; gynecologic pathology, June 6-18, and tuberculosis, April 11-15. The latter is an intensive course emphasizing the early diagnosis of tuberculosis, use of the roentgen ray, clinical methods, and the medical and surgical approaches in treatment. An intensive course in ophthalmology and otolaryngology, April 25-30, has been arranged for physicians especially interested in these fields. Further information may be had from the department of postgraduate medicine, University Hospital, Ann Arbor.

MISSISSIPPI

State Medical Meeting at Jackson.—The sixty-fifth annual session of the Mississippi State Medical Association will be held at the Robert E. Lee Hotel, April 12-14, in Jackson, under the presidency of Dr. John C. Culley, Oxford. The program will include papers by Drs. James R. McCord, Atlanta, Ga., on "Toxemias of Pregnancy: A Critical Analysis of 2,221 Deaths"; Robert L. Sanders, Memphis, Tenn., "Diagnosis and Surgical Treatment of Duodenal Ulcer"; Marye Y. Dabney, Birmingham, Ala., "Sterility in Women, Including Its Surgical Aspects"; William D. Haggard, Nashville, Tenn., "Studies of Carcinoma of the Large Intestine and Results of Operative Treatment"; Millard F. Arbuckle, St. Louis, "Present-Day Conception of Sinusitis"; Wiley R. Buffington, New Orleans, "Ulcerative Keratitis: Etiology and Treatment"; Walter W. Robinson, Memphis, Tenn., "Chronic Appendicitis"; James M. Martin, Dallas, Texas, "The Cancer Problem"; Lloyd Thompson, Hot Springs National Park, Ark., "Modern Renaissance of Syphilis"; Allan C. Eustis, New Orleans, "Headaches: Causes and Treatment"; James G. Carr, Chicago, "Treatment of Cardiac and Renal Edema"; Louis R. Brown, Little Rock, Ark., "Did You Ever Stop to Think?" and Edward Clay Mitchell, Memphis, "Asthma from the Viewpoint of the Pediatrician." Dr. Waller S. Leathers, dean, Vanderbilt University School of Medicine, Nashville, Tenn., will present the annual oration. Wednesday there will be a round table discussion on allergy, otolaryngology and the eye. The Mississippi State Hospital Association will meet, April 11, at the Edwards Hotel. A feature of the program will be a round table discussion on hospital economy with hospital efficiency. Gov. M. Sennett Conner, Jackson, will address the association on "Our Mississippi Hospitals."

MISSOURI

Personal.—Dr. Hyman I. Spector, St. Louis, who resigned six years ago as tuberculosis controller for the city, was reappointed to that position, February 3, to succeed the late Dr. Howard H. Bell.——Dr. John F. Chandler, Oregon, was appointed physician of Holt County and deputy state commissioner of health, recently, for a term of three years.——Dr. Robert R. Ellis, Kirksville, has been appointed deputy state health commissioner for a term of three years.

Annual Spring Symposium.—Beginning with the April meeting of the Kansas City Southwest Clinical Society, Kansas City, a two-day symposium on medical subjects will be inaugurated. Heart disease will be considered at the initial meeting, April 19-20. The course will consist of half-hour classes covering various heart conditions. A complete picture of heart disease with demonstration of patients will be presented by members who have specialized in this subject. This two-day symposium will be given annually at the spring session of the clinical society.

Society News.—Dr. Oscar T. Schultz, Evanston, Ill., addressed a joint meeting of the Bar Association of St. Louis and the St. Louis Medical Society, March 22, on "Borderline Problems of the Medical and Legal Professions in the Administration of Justice."——Dr. Erich Ruttin, Vienna, Austria, addressed the Jackson County Medical Society, Kansas City, March 29. Other speakers were Drs. Albert N. B. Lemoine, Kansas City, on "Differential Diagnosis of Acute Inflammatory Conditions of the Eye," and Otto J. Dixon, "Facts and Fallacies in Otolaryngology."——The meeting of the St. Louis Medical Society, March 25, was "city institution night." The speakers included Drs. Melvin J. H. Tess on "Incidence of Cesarean Section at St. Louis City Hospital No. 1 with Relation to Infant and Maternal Mortality"; John W. Eschenbrenner, Jr., "Meningococcemia and Recurrent Meningococcic Meningitis"; James M. Macnish, "Gangrene of the Male External Genitalia with Particular Reference to the So-Called Spontaneous Gangrene," and George D. Kettelkamp, "Rehabilitation of Tuberculous Patients."——Dr. Caryl Ferris, Kansas City, addressed the Pettis County Medical Society, Sedalia, March 7, on "The Latest Treatment of Diabetes." Dr. Frank D. Dickson, Kansas City, addressed the society, March 21, on "Traumatic Injuries of the Extremities."——Dr. Earl C. Padgett, Kansas City, addressed the Buchanan County Medical Society, St. Joseph, March 18, on "Position of Surgery in the Treatment of Pulmonary Tuberculosis."

NEW YORK

Society News.—Dr. Eugene H. Pool, New York, addressed the Medical Society of the County of Orange, Middletown, April 5, on the spleen.——A symposium on scarlet fever was presented before the Medical Society of the County of Erie, Buffalo, March 21, by Drs. Walter S. Goodale, William F. Jacobs, Ernest B. Hanan and Francis J. Gustina.——Dr. Adolph G. G. De Sanctis, New York, addressed the Dutchess-Putnam Counties Medical Society, Poughkeepsie, February 10, on "Surgical Abdominal Conditions in Children."——Dr. Francis Carter Wood, New York, addressed the Medical Society of the County of Nassau, Garden City, March 29, on "More Effective Treatment of Cancer with the Means at Hand."

New York City

Hospital News.—Dr. Louis B. Wilson, director, Mayo Foundation, Rochester, Minn., addressed the annual meeting of the Hospital for Joint Diseases, March 21, on "Research in the Hospital."——Lenox Hill Hospital has recently opened a clinic for the treatment of congenital dislocation of the hip, under the direction of Dr. Charles H. Jaeger.

Janeway Lectures.—Dr. Ludwig Pick, honorary professor of pathologic anatomy, University of Berlin, will deliver the Edward Gamaliel Janeway Lectures for 1932 at Mount Sinai Hospital, April 18, on "Clinical Aspects and Pathologic Anatomy of Diseases of Lipoid Metabolism" and, April 25, on "Aseptic Bone Necrosis and Its Rôle in Clinical Surgery."

Course on Diabetes.—A graduate course of six sessions on diabetes is being given at the Jewish Hospital of Brooklyn as part of the spring program sponsored by its committee on graduate education. Dr. Edmund L. Shlevin and his staff are

giving the instruction, which includes dietetic management, insulin and its application, hypoglycemia, and management of ketosis and diabetic coma.

Blizzard Class Reunion.—Dr. John F. Moore was host at the annual dinner and reunion, March 12, of the Blizzard Class, which was graduated from Bellevue Hospital Medical College on the night of New York's greatest blizzard, March 12, 1888. Sixty of the 144 members of the class are still in practice. Dr. David Hunter McAlpin is president of the class and Dr. S. Adolphus Knopf is secretary.

Personal.—The editorial board of the *American Journal of Cancer* gave a dinner, April 5, at the New York Athletic Club in honor of Dr. Joseph Colt Bloodgood, Baltimore, a member of the board, who left to give a series of lectures in Europe. ——Dr. John J. Kindred has been appointed professor of medical jurisprudence at Stetson University, DeLand, Fla. Dr. Kindred represented the Brooklyn district in Congress for ten years.

Another Moderate-Rate Hospital Unit.—A new plan for distribution of medical and hospital care for patients of moderate means was put into effect at Sydenham Hospital, March 10. In a unit set aside for the purpose, two patients will occupy a room at a rate of $6 a day. The medical staff has approved a scale of moderate fees, which are not to exceed a maximum of $150, no matter how long the patient is in the hospital. Group nursing will be supplied for $3 a day. To certain patients the hospital will grant the privilege of paying half the estimated cost on admittance and the remainder in ten weekly payments. Forty-five beds will be set aside for this unit. This service is open to patients of any physician in Manhattan and the Bronx, subject to hospital regulations.

OHIO

New Health Commissioners.—Dr. Walter S. Holley was appointed health officer of Toledo, March 7. He succeeds Dr. John L. Lavan, who resigned, January 1, to become health officer of Kalamazoo, Mich.——Dr. Kenneth D. Smith has been appointed health officer of Marion, following the separation of the city health department from that of the county. Dr. Newman Sifritt continues as county commissioner. —— Dr. John G. Anderson, Fayetteville, was appointed health commissioner of Brown County in February.

Annual Postgraduate Day.—The Mahoning County Medical Society will hold its sixth annual Postgraduate Day, April 28, in Youngstown. Four physicians from the staff of Peter Bent Brigham Hospital, Boston, will give a course of lectures and hold a clinicoroentgenologic conference. Dr. Henry A. Christian will lecture on "Varieties of Bright's Disease and Their Management" and "Diuretics and Their Uses"; Dr. Samuel A. Levine, "A Clinical Conception of Heart Disease" and "Bedside Recognition and Treatment of Cardiac Irregularities"; Dr. William C. Quinby, "Cardiorenal Balance After Operations" and "Clinical Aspects of Urinary Calculi and Their Treatment," and Dr. Merrill C. Sosman, "Through the Alimentary Canal with the Fluoroscope."

Health at Cincinnati.—Telegraphic reports to the U. S. Department of Commerce from eighty-five cities with a total population of 37 million, for the week ended March 26, indicate that the highest mortality rate (21.9) appears for Cincinnati, and the rate for the group of cities as a whole, 13.5. The mortality rate for Cincinnati for the corresponding week of 1931 was 17.1, and for the group of cities, 13.5, the same as for this year. The annual rate for eighty-five cities is 12.6 for the twelve weeks of 1932, as against a rate of 14.1 for the corresponding period of the previous year. Caution should be used in the interpretation of weekly figures, as they fluctuate widely. The fact that some cities are hospital centers for large areas outside the city limits or that they have large Negro populations may tend to increase the death rate.

Society News.—Dr. Jonathan Forman addressed the Columbus Academy of Medicine, March 14, on allergy.——Dr. Gerald S. Shibley, Cleveland, addressed the Lorain County Medical Society, March 8, on pneumonia.——At a meeting of the Ashland County Medical Society, Ashland, March 11, Dr. Jacob M. Heyde, Loudonville, presented a paper on "The Vegetative Nervous System and Its Physiology."——Dr. Raphael Isaacs, Ann Arbor, Mich., addressed the Clark County Medical Society, Springfield, March 23, on "Diagnosis and Treatment of Anemia." Dr. Albert Graeme Mitchell, Cincinnati, spoke, March 9, on "Is the Feeding of Children Simple or Complex?" —— Dr. Benedict Olch, Dayton, made an address on management of diabetes mellitus before the Preble County Medical Society, New Paris, March 17.

OREGON

Society News.—Dr. William B. Holden addressed the Portland City and County Medical Society, March 16, on "Practical Psychology in Surgery."——A study of exophthalmic goiter was presented before the Union County Medical Society, recently, by Dr. Clarence L. Gilstrap, La Grande.

Society Protests Ruling of Industrial Commission.—The medical society of Klamath and Lake counties adopted a resolution, March 15, protesting against orders issued by the state industrial accident commission by which the number of physicians authorized to care for state accident cases is limited to certain designated physicians and demanding that the orders be immediately rescinded. The resolution sets forth the opinion that "the order is arbitrary; contrary to the spirit of the workmen's compensation act; removes the workingman's full right of choice of his physician; embarrassing to the employer and unfair to the physician." The ruling went into effect in Lake County, January 1, and in Klamath County, April 1. The Benton County Medical Society, at a special meeting, March 29, adopted a resolution approving the protest of the Klamath and Lake society and recommending that physicians of those counties disregard the order of the commission. "The Benton County Medical Society feels that the State Industrial Accident Commission has overstepped its rights in the above action," the resolution reads, "and has discriminated against other qualified and licensed physicians in Klamath and Lake counties."

PENNSYLVANIA

Personal.—Dr. Charles Howard Marcy, Pittsburgh, was elected president of the Pennsylvania Tuberculosis Society at its annual meeting, January 20.——Physicians of Montour and surrounding counties gave a dinner in honor of Dr. John H. Sandel, Danville, March 6, at Danville, marking his fiftieth anniversary in the practice of medicine.

Society News.—Dr. Frederick M. Allen, Morristown, N. J., addressed the Cambria County Medical Society, Johnstown, March 10, on "Diet and Other Measures in the Treatment of Nephritis."——Dr. John B. Nutt, Williamsport, among others, addressed the Tioga County Medical Society, Mansfield, February 24, on diagnosis and treatment of acute abdominal disease.

Philadelphia

Personal. — Dr. Abraham M. Ornsteen has been elected president of the Philadelphia Neurological Society. —— The senior class of Jefferson Medical College presented to the college an oil painting of Dr. Jacob Parsons Schaeffer, professor of anatomy and director of the Daniel Baugh Institute of Anatomy, March 15.

School of Medical Art at Temple.—A department of medical illustration has recently been established at Temple University in affiliation with the school of medicine. William Brown McNett, medical artist and illustrator, who received his training at Johns Hopkins University, Baltimore, has been appointed director. Two courses will be offered, one for artists and art students with the necessary qualifications and the other for medical students and graduates, teachers and research workers who wish a knowledge of the graphic arts.

Dr. Bloom Awarded Medal. — Dr. Rudolph H. Bloom, who served as a lieutenant colonel in the United States Army during the World War, has been awarded the decoration of the Purple Heart by the War Department. This decoration was instituted by George Washington in an order issued at Newburgh-on-the-Hudson, August 7, 1782, but it was little used until revived by the President of the United States, February 22, the two hundredth anniversary of Washington's birth. As prescribed for modern use it is a heart-shaped gold medal with a center of purple enamel. On the obverse side is a relief bust of Washington. It will be awarded to persons who perform any singularly meritorious act of extraordinary fidelity or essential service.

Seminar on Physical Medicine.—An introductory seminar on physical medicine is to be held for practicing physicians during the week of April 18 under the auspices of the committee on education of the Philadelphia County Medical Society and the Pennsylvania Physical Therapy Association. A series of lectures covering the elements and clinical application of physical agents will be held in the Memorial Auditorium of the county society, with the following speakers, among others: William W. Coblentz, Ph.D., Washington, D. C.; Drs. Richard Kovacs, Norman E. Titus, William Bierman, and Kristian G. Hansson, New York, and Harry E. Stewart, New Haven,

Conn. In addition, a series of clinical demonstrations will be given at Jefferson, Temple University, University of Pennsylvania and Graduate hospitals. No fee will be charged.

TENNESSEE

Lectures on Otology.—Prof. Erich Ruttin, Vienna, Austria, will give a series of lectures on otology in Memphis, April 25-29, under the auspices of the Memphis Society of Ophthalmology and Otolaryngology. Information may be obtained from Dr. Ralph O. Rychener, 1720 Exchange Building, Memphis.

Society News.—Drs. Henry J. Hayes and Julian B. Blue addressed the Memphis and Shelby County Medical Society, Memphis, February 16, on "Problems in Mental Disorders" and "Cavernous Sinus Thrombosis," respectively.——Dr. Vilray P. Blair, St. Louis, addressed the Nashville Academy of Medicine, March 29, on "Surface Repairs for Both Function and Appearance."——Dr. William D. L. Record, Chattanooga, addressed the Hamilton County Medical Society, March 17, on calcium metabolism.——The West Tennessee Medical and Surgical Association will meet in Jackson, May 26-27.

State Medical Meeting at Memphis.—The ninety-ninth annual meeting of the Tennessee State Medical Association will be held in Memphis, April 12-14, with headquarters at the Hotel Peabody. At the opening evening meeting, April 12, Dr. Thomas R. Ray, Shelbyville, will deliver his presidential address, "Shall the Future Policies of Organized Medicine Be Aggressive or Submissive?" Dr. Waltman Walters, Rochester, Minn., will speak on "Recent Advances in Treatment of Obstructing Lesions of the Biliary Tract." Among Tennessee physicians listed in the program are Drs. Ernest R. Zemp, Knoxville, on "Gastric Ulcer"; William D. Haggard, Nashville, "Napkin Ring Carcinoma of the Sigmoid—Recognition and Operation"; Alvin E. Keller, Nashville, "Clinical Manifestations, Treatment and Prevention of Ascariasis"; Percy W. Toombs, Memphis, "The Hazard of Surgery in Obstetrics," and Charles C. Vinsant, Maryville, "Management of the Posterior Position of the Occiput." The Tennessee Pediatric Association will hold its annual meeting, April 11, with Drs. Clifford G. Grulee, Chicago, and Robert A. Strong, New Orleans, as guest speakers, on "The Social Problem of Pediatrics" and "Pediatric Organization," respectively.

WASHINGTON

"Eyesight Swindler."—The *Health Messenger*, Seattle, reports the activities of an eyesight swindler in Clallam County. Calling himself "Dr. Harry Chandler Coby, Oregon State specialist of Portland State Hospital, Oregon, and having an office in Olympia," the man went to the home of a resident of Joyce, examined his eyes and told him he had a "transparent cataract." The victim was persuaded to go to Portland to have it removed. He later reported that "Dr. Coby removed what appeared to be a piece of rubber from the eyeball and said his charges were $150." The man actually paid $65. There is no person named Coby licensed to practice in Washington or connected with a Portland hospital, according to the *Messenger*.

WEST VIRGINIA

Licenses Revoked.—At a session of the Public Health Council in Charleston, March 22, the following physicians were deprived of their licenses on account of violations of the Harrison Narcotic Act: Drs. Frederick Arthur Fitch, Huntington; James Carney Hardman, Huntington, and Alvah L. Parsons, Charleston. The license of Dr. Elmer G. Kesler, Williamsburg, was revoked for violation of the federal prohibition law.

Inspection of Milk Production.—Robert C. Thomas of the U. S. Public Health Service is making a survey of milk plants and dairies in the state operating under the standard milk ordinance. Twenty-five of the sixty-nine milk plants and a sufficient number of dairies to ascertain conditions of sanitation will be inspected. Adoption of the standard ordinance is said to have stabilized milk control and to have given the public confidence in the safety of the milk supply. The per capita amount of milk consumed has increased.

WISCONSIN

Personal.—Dr. John C. Hayward, Marshfield, was the guest of honor at a dinner given by members of the Marshfield Clinic, March 29, in celebration of the fiftieth anniversary of his graduation from Chicago Medical College. He has practiced forty-nine years in Marshfield.——Dr. Joseph J. Kronzer has been appointed health officer of Oshkosh, succeeding Dr. Edward J. Campbell.

William Snow Miller Lecture.—Dr. Jay Arthur Myers, associate professor of preventive medicine and public health, University of Minnesota Graduate School of Medicine, Minneapolis, gave the fifth William Snow Miller Lecture under the auspices of the Phi Beta Pi fraternity and the University of Wisconsin Medical Society, in Madison, March 31, on "Recent Studies in Tuberculosis."

GENERAL

American Proctologic Society.—The thirty-third annual meeting of the American Proctologic Society will be held in Memphis, May 6-7, under the presidency of Dr. William O. Hermance, Philadelphia. A special feature of the program will be a symposium on rectal cancer, with the following speakers: Drs. Charles E. Pope, Chicago; Louis A. Buie, Rochester, Minn.; Descum C. McKenney, Buffalo; Walter A. Fansler, Minneapolis; Thomas E. Jones, Cleveland; Dudley A. Smith, San Francisco, and Louis J. Hirschman, Detroit. There will be operative clinics and demonstrations in pathology in Memphis hospitals and at the University of Tennessee School of Medicine.

Fellowship at Geneva.—The Institute of International Education announces that a fellowship for graduate study at the medical faculty of the University of Geneva is available for the academic year 1932-1933. The candidate must be an American citizen, graduate of an approved American medical college or holder of a master's or doctor's degree in a science related to medicine and must have a thorough knowledge of the French language. Either men or women may apply. Preference will be given to unmarried candidates under 35 years of age. The fellowship provides tuition and a stipend of 3,000 Swiss francs (about $600). For application blanks, address the Secretary, Student Bureau, Institute of International Education, 2 West Forty-Fifth Street, New York.

Fraudulent Magazine Agent.—Physicians and medical students are warned against one T. H. Fleming, who is reported to have defrauded medical students in Chicago and Cleveland by offering them subscriptions to THE JOURNAL in combination with certain general magazines and sets of books at a greatly reduced price. Information sent to medical fraternities led to Fleming's arrest in Madison, Wis. He made restitution on the complaint on which he was arrested and this case is reported to have been dismissed. He was arrested a second time, however, on complaint of students of Northwestern University School of Medicine, Chicago, but this case was also dismissed because the indictment was not properly drawn. Fleming is said to be about 26 years old and about 5 feet 5 inches tall. He has black hair and a heavy black mustache and wears white metal rimmed glasses. He showed a ready knowledge of medical textbooks.

Washington Award to W. D. Coolidge.—The eleventh presentation of the Washington Award administered by the Western Society of Engineers was made to William David Coolidge, Ph.D., associate director of research of the General Electric Company, Schenectady, N. Y., at a meeting in Chicago, February 24. Dr. Coolidge is known for his development of the hot cathode x-ray tube, various types of x-ray generating equipment, the C tube for submarine detection and signaling, the cathode ray tube, ductile tungsten for lamp filaments, and wrought tungsten for contacts and x-ray targets. After graduating from Massachusetts Institute of Technology in 1896, Dr. Coolidge studied at Leipzig, where he received his advanced degree. In 1905 he became a member of the staff of the General Electric Research Laboratory and was assistant director from 1908 to 1928, when he was made associate director with Willis R. Whitney, Sc.D. The Washington Award, named in honor of George Washington as the first prominent American engineer, was founded in 1916 by John Watson Alvord, Chicago engineer, to provide recognition of the services of engineers to human progress. The first award was made in 1919 to President Hoover and subsequent ones have been given to Orville Wright, Michael Pupin and Ralph Modjeska, among others. It is a bronze plaque bearing the name of the recipient and a statement of the achievements for which it is presented.

Society News.—The forty-fourth annual meeting of the American Physiological Society will be held at the University of Pennsylvania, Philadelphia, April 27-30.——The hospital associations of Arkansas, Kentucky and Tennessee will hold a joint meeting in Memphis, April 18-19. Among other speakers, Clarence Rufus Rorem, Ph.D., Chicago, will give an address on "Trends in Sickness Insurance in the United States."——The annual meeting of the American Association for the Study of the Feeble Minded will be held in Philadelphia, May 26-29. Dr. Groves B. Smith, Godfrey, Ill., is the secretary.——The

Western Branch of the American Urological Association will meet in Portland, Ore., July 1-2, with Drs. William E. Lower, Cleveland, Guy L. Hunner, Baltimore, and Ernest Granville Crabtree, Boston, as guest speakers.——The American College of Physical Therapy will hold its eleventh annual congress in New York, September 6-9.——The annual meeting of the American Society for the Control of Cancer was held in New York, March 4. Speakers were Clarence C. Little, Sc.D., New York, managing director, who reported recent developments in the society's work; Dr. John C. A. Gerster, New York, who discussed the work of the New York City Cancer Committee, and Dr. Burton T. Simpson, Buffalo, the work of the New York state committee and of the State Institute for Study of Malignant Disease. Dr. George H. Bigelow, Boston, health commissioner of Massachusetts, was elected president; Dr. James Ewing, New York, vice president, and Dr. Burton J. Lee, New York, secretary. Dr. James B. Murphy, New York, is chairman of the board of directors.

Medical Bills in Congress. — *Changes in Status:* The Narcotic Convention for Limiting the Manufacture and Regulating the Distribution of Narcotic Drugs, signed at Geneva, July 13, 1931, has been ratified by the United States. S. 3769 has been favorably reported to the Senate, with amendments, amending the Disabled Emergency Officers Retirement Act to provide, among other things, that such officers with disabilities *presumptively* of service origin shall not be entitled to retirement under the act (Senate Report 485). H. R. 4755 has been favorably reported to the House, with an amendment, providing for constructing and equipping a hospital on Crow Indian Reservation, Montana (House Report 953). H. R. 4754 has been favorably reported to the House, with an amendment providing for constructing and equipping a hospital on the Blackfeet Indian Reservation, Montana (House Report 921). *Bills Introduced:* S. 4273, by Senator Long, Louisiana, to provide an annuity for the widow of Dr. Aristides Agramonte. S. 4279, by Senator Copeland, New York, to provide that any commissioned officer or enlisted man of the Army, Navy, Marine Corps, Coast Guard, Geodetic Survey or Public Health Service who is placed on the retired list with physical disability as the result of an airplane accident while regularly detailed to duty involving flying shall be retired with three fourths of his total pay and allowances, including aviation pay. H. R. 10888, by Representative Rich, H. R. 10921, by Representative Chase, and H. R. 10925, by Representative Cochran, all of Pennsylvania, to erect hospitals for veterans in Pennsylvania. H. R. 11009, by Representative Weaver, North Carolina, to provide pensions for certain persons who, as civilian employees of the military establishment of the United States, were employed and designated on the rolls as teamsters in the war with Spain or the Philippine insurrection.

FOREIGN

Medal for Dr. Buizard. — Colleagues and friends of Dr. Charles Buizard, general secretary of the Surgeons Society of Paris, plan to present to him a bronze medal on the occasion of his promotion to the rank of Officer of the Legion of Honor. Members of the committee request those who wish to participate in the gift to send their subscriptions to MM. G. Doin and Co., editors, 8 Place de l'Odéon, Paris (6e).

Society News.—The second congress of the International Society of Orthopedic Surgery will be held in London at the Royal Society of Medicine, July 19-22, 1933, under the presidency of Dr. Nové-Josserand of Lyons, France.——An international congress on syphilis will be held in Paris, May 9-12, during which the centenary of the birth of Prof. Jean Alfred Fournier will be celebrated. Professor Fournier died in 1914.

Annual Session of British Medical Association.—The annual session of the British Medical Association this year in London is a centenary meeting celebrating the founding of that association in 1832. Because of the large number of physicians in attendance officially representing the British Medical Association and its various constituencies, and because of the official delegates from medical bodies throughout the world, the secretary of the British Medical Association asks THE JOURNAL to announce that invitation to attend is restricted to members of the British Medical Association and those guests specially invited. The British Medical Association, he says, is not inhospitable but the exigencies of the case make it impossible to extend a general invitation.

Deaths in Other Countries

Sir Frederick W. Andrewes, for many years pathologist to St. Bartholomew's Hospital, London, and professor of pathology, University of London, aged 73, in London, February 24.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 12, 1932.

The Teeth and Vitamin D

The annual report of the Medical Research Council for 1930-1931, just issued, in discussing advances in our knowledge of food deals at length with calciferol, which is believed to be vitamin D in a pure state. "It seems almost incredible that a particular addition to the food so infinitesimal in amount, taken into the child's body for distribution to every part, should be so potent in its deep-seated activity as to make all the difference between crippling and disease on the one hand and healthy life and development on the other. We now have for the first time the description of a vitamin, or at least of a very close approximation to it, in terms of known chemical and physical characters. As soon as knowledge makes it possible, the public should have a guaranty that given foods have the value claimed for them. To a poor nursing mother it is of vital importance, for instance, that the fatty substance which she buys for food should have an effective vitamin D value. Deficiency in this invisible quality is of far greater importance than shortness of weight, against which she is already protected by law. In previous researches for the council, Mrs. Mellanby has shown that proper development of the teeth and jaws is impossible in the absence of vitamin D. Four years ago the council, on the advice of its dental committee, made a large-scale trial of the effects of giving vitamin D, in the form of cod liver oil or viosterol, to groups of children living under urban conditions and supplied with a diet believed to be adequate. After an interval of two years their increase of dental decay was only 10 per cent, as compared with 46 per cent in other groups living under precisely similar conditions but not receiving the ration of vitamin D. It should be noted that these results apply to teeth already formed at the beginning of the trial. The final report, which the council hopes may appear during next year, will include the results shown by the teeth that have been in course of development since the beginning of the trial, and it is natural to suppose that these will bring out the value of a full supply of vitamin D in even more striking degree.

Shortage of Suitable Candidates for Nursing

The final report of the Lancet Commission on Nursing has been published. The commission was appointed in December, 1930, to inquire into the reasons for the shortage of candidates for nursing in the hospitals throughout the country and to make suggestions. The inquiry was exhaustive; information was collected from 686 hospitals relating to a nursing staff of nearly 44,000. The establishment in 1919 of the general nursing councils gave nursing a definite professional status. Only certain hospitals were approved as teaching schools and a standard curriculum was instituted leading up to examination for admission to state registers. But these developments were not effective in increasing the popularity of nursing as a profession for educated women, although other professions and occupations open to women have become crowded. The nurse's conditions of training and service have fallen into disfavor, although conditions have been much improved in the best training schools. The public is still dominated by a picture of drudgery and cutting off of amusement and amenities which is no longer true. It is estimated that one fifth of the hospitals fail to secure suitable candidates as sisters and one half to secure staff nurses and probationers of the standard they require. Only a few hospitals are in a position to insist on secondary education for all applicants and still fewer to demand a school certificate or matriculation. The evidence showed that long hours of work restrict recruiting. In 60 per cent of hospitals the hours worked

daily are from nine to ten; in 26 per cent they are more than this and in 14 per cent are less. In 50 per cent the average weekly hours are from fifty-five to fifty-nine; in 35 per cent more, and in 15 per cent less. The commission favors a reduction of working hours to eight or eight and a half daily. The span of day duty should not exceed thirteen hours, during which at least one and one-half hours should be allowed for meals and three clear hours off duty. Other suggestions of the commission are as follows: The food in many hospitals should be less monotonous and more carefully prepared. A separate bedroom should be provided for each nurse, and the possibility of some of the trained staff being allowed to live out should be explored. Some relaxation of ward etiquette might be permitted in the nurses' home. Adequate notice should be given to the nurse of her time off duty. Three weeks' annual leave should be insured. Too much of the nurse's energies are devoted to routine domestic work, which should be performed by ward maids. The curriculum in these schemes should be at first general; later, anatomy, physiology and hygiene should be introduced.

The Smuggling of Drugs

An ingenious method of smuggling hashish into Egypt has been discovered by the Egyptian police on the Palestine frontier. There is a constant traffic of camels across the Sinai desert from the north for sale in the Nile valley. These camels, coming from a colder climate, have long shaggy coats. A caravan of twenty-five camels was stopped by a police patrol, a member of which offered to buy one of the animals. He was struck by the remarkably high price demanded and began to examine the camel to see whether it was worth so much. In running his hand through its coat he felt something hard, which turned out to be a slab of hashish weighing 1¾ pounds, stuck with glue to the animal's side. A piece of the skin had been carefully cleared of hair, which had been stuck on one side of the slab, and the latter then neatly glued on to the bare patch. This was so skilfully done that it was impossible to perceive the hashish, which could be detected only by running the fingers through the camel's hair. All camels crossing the frontier are now carefully examined and a large haul of contrabrand hashish has been made.

The nimble witted traffickers of the Levant, who introduce drugs into Egypt, have exhausted ingenuity in their devices, which equal those of detective stories. To the trunks with double bottoms, the tables with secret drawers, they have added grooved planks, the crank cases of automobile engines, and millstones of cement in which narcotics are embedded. To conceal the characteristic smell of hashish they mixed the drug with powdered fir cones, which are used for tanning, and so imported large quantities before they were discovered.

Human Tuberculosis of Bovine Origin

At a meeting of the Tuberculosis Society of Scotland, Dr. A. Stanley Griffith, member of the scientific staff of the medical research council, showed the prevalence of human tuberculosis of bovine origin in Britain. Thirty years has elapsed since Koch declared in London that human infection with bovine bacilli was so rare that he did not deem measures against it advisable. Investigations, which were at once instituted, showed how greatly he was mistaken. In Britain the frequency of bovine infections is much greater than in continental countries or the United States, and in Scotland the incidence is higher than in England. In England, 45 per cent of the cases of tuberculosis of the cervical glands, 48 per cent of those of lupus, 30 per cent of meningeal tuberculosis, 18 per cent of bone and joint tuberculosis, and 17 per cent of genito-urinary tuberculosis have been found to be due to the bovine bacillus. In pulmonary tuberculosis, on the other hand, the percentage is only 0.8, but in Scotland and the north of England the percentage rises to 4. It has been stated that the bovine bacillus is less virulent for man than the human type, but Dr. Griffith's investigations have shown that it is at least as virulent. Bovine bacilli are conveyed to man through milk and its products and are practically restricted to entry by the alimentary canal. Hence bovine bacilli are found mainly in the tuberculosis of childhood. The human tubercle bacillus, on the other hand, is more likely to be air borne and to enter by the respiratory tract. A comparison of the effects produced by the two types of bacilli in the various forms of surgical tuberculosis has not revealed any clinical features by which one can be distinguished from the other. With regard to prevention, the first necessity is to render milk safe for human consumption by heating. Household sterilization is not likely to be properly done or rigidly followed. Therefore Dr. Griffith holds that it is the duty of the health authorities to enforce pasteurization of all milk from untested herds.

A New Theory of Tsetse Fly Infection

The current view is that the blood of African game animals is the reservoir from which the tsetse fly derives trypanosomes for the infection of domestic animals. As a consequence there has been an agitation for years for the abolition of the present game reserves in Zululand and the destruction of the wild animals there. However, Dr. Warren, director of the Natal museum, announces that experiments by Mr. Davidson, a naturalist, have completely destroyed the accepted theory. Dr. Warren has carefully checked Mr. Davidson's results and is satisfied that the trypanosome responsible for nagana infection of cattle is derived from the latex of certain plants on which the tsetse fly normally feeds and that infection from this source can be conveyed to domestic animals. He considers the proof complete that the tsetse fly in Zululand normally becomes infected with nagana trypanosomes by sucking this latex and not by sucking the blood of game animals.

Research on Cancer Produced by Lubricating Oils

The researches of the Manchester Committee on Cancer produced by lubricating oils have been reported in previous letters. A further report has now been issued. With a view to tracing the causes of mule spinners' cancer the committee is continuing its study of the cancer-producing properties of mineral oils (such as are used in the lubricating of cotton-spinning machinery) and of the possibility of removing harmful compounds without increasing cost or diminishing lubricating properties. The research work is now carried out by a joint committee of representatives of the Manchester Committee on Cancer and the University of Manchester. Valuable assistance is being rendered by the Anglo-Persian, the Anglo-American and the Shell-Mex oil companies, which are jointly contributing $5,000 for two years toward the cost of the work. The report shows that the synthesizing of a cancer-producing substance from inert organic material has yielded a synthetic tar of such high concentration that a dilution of 1 part in 1,000 produces tumors in animals as numerous as those obtained with shale lubricating oils. Only one definitely active pure compound has yet been isolated from this tar, of comparatively small power to produce tumors, but the cancer-producing power of this compound is much increased by adding oleic acid, which accordingly is now regarded with some suspicion as a cancer-producing agent. Attempts are being made to treat mineral oils with sulphuric acid in such a way as to render the oils innocuous, but it is not clear that the full benefit of such treatment, as demonstrated in laboratory conditions, can be derived from the ordinary commercial use of the acid. It has been found that a special clay, when used for the purification of shale oil, reduces the potency of the oil as a cancer producer by 75 per cent. The addition of 5 and 10 per cent of sperm oil to the shale oil reduces the potency by 66 and 75 per cent, respectively, and wool fat (anhydrous lanolin) reduces it by 90 per cent. The committee therefore recommends manufacturers to mix in their lubricating oils the necessary quantity of sperm oil or wool fat. The

most potent cancer-producing oil yet tested is unfinished shale oil untreated by sulphuric acid. Mineral oils obtained from petroleum wells vary considerably in toxic activity. The cancer-producing property seems to be related to the particular chemical composition of the oil, and it is well known that one field may produce oils of entirely different chemical nature.

PARIS

(From Our Regular Correspondent)

Feb. 10, 1932.

Protests Against Ruling on Admission to Faculties of Medicine

A decree of the minister of public instruction, issued January 25, has put into effect the provisions of the Armbruster bill, revising the law of 1892 governing the practice of medicine in France. The Armbruster bill has been passed by the senate but not as yet by the chamber of deputies, which still has the right to make changes in it. Nevertheless, the minister, basing his judgment on the opinion frankly formulated by the senate, immediately put into effect one of its most important provisions, which denies admission to the faculties of medicine to students who have no bachelor's degree covering classical studies and a knowledge of Latin and Greek. In place of the two old established courses leading up to the bachelor's degree (belles-lettres or the sciences), the university has created some twenty different courses to meet the needs of every kind of career. There are some courses that require only a knowledge of the French language, one modern language chosen by the pupil, and various branches of science. For admission to the faculties of medicine, the possession of a bachelor's degree covering Latin and Greek had always been demanded, these two languages having served for the intellectual training of all French physicians for many generations, being considered indispensable for the understanding of medical terminology, which comprises many words drawn from the Greek and the Latin. During the past decade, the ministers of public instruction, yielding to political pressure, finally decided that for admission to the study of medicine a knowledge of Latin and Greek should be optional; that is to say, these languages were practically eliminated from the educational program of future pupils. The socialist and the radical-socialist parties made a political question of the matter. They wished to open to the *enfants du peuple* all the professions by reducing to a minimum the preliminary general education required. They were striving, furthermore, to weaken the influence of the intellectual classes, toward whom the eminent politicians have always taken an envious attitude. Finally, by making a knowledge of Latin optional, they sought secretly to alienate the people from Catholic religious ceremonies in which Latin is chiefly employed. But soon protests began to arise in all learned societies. The pupils prepared under this new régime betrayed an intellectual training and a general education that were frankly inferior to the acquisitions of their elders, not only in the faculties of medicine but also in the faculties of law, science, and the large schools of engineering. The level of their purely scientific worth, their general aptitudes, the power of their reasoning, and the ability to express themselves clearly were visibly diminished. From every direction, the professors, even in the exclusively scientific institutions, demanded a return to the classical studies of olden days. Sharp remonstrances were addressed to the senate. The result was the Armbruster bill, which demands a knowledge of Latin and Greek on the part of students of medicine. The medical syndicates have made similar demands, although it is admitted that they have the ulterior motive of relieving overcrowding in the faculties of medicine, and consequently of the medical profession, by erecting somewhat higher barriers for applicants for admission to study. The minister of public instruction thought that he had displayed a certain amount of courage in thus meeting the demands of the intellectual élite and disregarding political considerations. During the three weeks after the issuance of the decree—that is to say, just at the time that the students who are planning to begin their medical studies next October were getting everything in order—these students protested loudly, organized meetings, and even fomented disorders in the street that required the intervention of the police to suppress. One never would have supposed that, in 1932, the students would have fought among themselves and would have fomented street riots in support of, or in opposition to, the study of Greek and Latin. The strange part of it all is that some professors of the faculties of medicine (in the provinces at least) are now adding their protests to those of the students. The Faculté de médecine de Montpellier, the oldest in France, where, up to the end of the eighteenth century, all instruction was given in Latin, has now declared that medicine is taking more and more the direction of the laboratories, and demands of the pupils a more extensive scientific training, which makes a knowledge of the humanities secondary. Such knowledge is, to be sure, praiseworthy, but it is no longer advisable to make it compulsory. This change of attitude is exceedingly surprising in men of such high education and culture. It can be explained only by the secret desire, manifest today in some of the older faculties of medicine, in the provinces, at which the attendance is small, to put nothing in the way of prospective students. It is a well known fact that the University of Montpellier, which, for a long time, was the only scientific center in southern France, has lost much of its prestige since the creation of faculties of medicine at Toulouse and at Marseilles, which are much larger cities than Montpellier, and hence more attractive to students. Up to recent years, for anatomic studies it was necessary to have cadavers sent to Montpellier from the hospitals in Marseilles, the hospitals of Montpellier, a city that is gradually diminishing in importance, no longer supplying a sufficient number. The minister of public instruction will find it difficult to satisfy every one, in this matter.

Increasing the Water Supply of Paris

The continued growth of the population of Paris, and particularly of its suburbs, where several cities, with from 50,000 to 100,000 inhabitants, have sprung up, giving a total of 5,000,000 to the department of the Seine, makes it necessary constantly to increase the supply of drinking water. At the present time, in spite of the transportation of the waters of the Vanc, the Ourcq, the Dhuys and the Avre, one third of the drinking water distributed is filtered and sterilized water from the Seine, hygienically above censure but having often a rather disagreeable taste. The project that the municipal council of Paris has finally approved, after the many years of investigation, which was begun a long time before the war, will supply the capital and its suburbs with a million cubic meters of drinking water for each twenty-four hours. The water will be drawn from the sands of the valleys adjacent and parallel to the Loire, and impregnated by the subterranean infiltrations of the great river. The output of the river will not be thereby appreciably diminished. This perfect filtration through the sand will supply pure water, deprived of micro-organisms, fresh and with a low mineral content. The water will be collected by a series of mains 3.5 meters in diameter, laid in the sand at a depth ranging from 8 to 10 meters, and fed by numerous lateral drains. Fortunately, the differences in altitude between the valley of the Seine and the valley of the Loire are such that it is not necessary to make use of a pumping system. The water will be collected between Nevers and Gien, at which point will begin an aqueduct of about 145 kilometers in length, with several siphons throughout its course. The horizontal portions will consist of a pipe 4.5 meters in diameter. The siphons will be formed of two pipes coupled together (each 3 meters in diameter), to provide for the possible breaking of one pipe.

The total length of the aqueduct and of the collection pipes will be 200 kilometers. The total expense involved will be about 2,000,000,000 francs ($80,000,000).

Police Statistics of Paris

In connection with the preparation of the budget of the police department, an important communication was presented by Mr. Massart, on the functioning of its various services during the past year. The report contains many interesting items of information. There were recorded 1,965 suicides as against 1,804 in 1930, denoting an increase of 161 and an average of 5 a day. There were 1,976 persons who died on the streets, which, with 821 further deaths recorded at the Institut médico-légal, gave rise to 1,465 necropsies. During the last ten months of the year 1931, the department of contagious diseases, according to the notifications of attending physicians, and the necrologic reports of the hospitals and the town halls, had to do with 32,917 cases of contagious disease, 14,714 of which came under the head of compulsory notification and 18,203 under optional notification. No cases of psittacosis were notified. It may be stated that the decree dated March 15, 1930, prohibiting the display, the sale, or the offering for sale, on the public highways or on the markets, of parrots, parrakeets, and other birds of the same family, aided in the eradication of this malady. Diphtheria showed a decrease. As compared with 2,128 cases notified in 1930 in Paris, and 1,758 cases in the suburbs, only 1,321 notifications were received for Paris, and 1,022 for the suburbs, in 1931. Three cases of hydrophobia were discovered in Paris and two in the suburbs. In Paris there were 2,307 accidents to persons, caused by vehicles, and in the suburbs, 1,551. There were 286 fatal accidents in Paris and 291 in the suburbs. During the same period, 247 diplomas of doctors of medicine, 179 of surgeon-dentists, 115 of pharmacists, 58 of midwives and 30 of herbalists were registered.

BERLIN

(From Our Regular Correspondent)

Feb. 15, 1932.

Appeal Taken from the Decision in the Lübeck Case

In the case of the Lübeck disaster, various phases of which have been discussed in recent letters, a court decision was reached, February 6: "The defendant Professor Deycke is sentenced to two years in the penitentiary for homicide due to negligence and for bodily injury due to negligence. The defendant Obermedizinalrat Dr. Altstaedt is sentenced to a year and three months in the penitentiary for bodily injury due to negligence, on the basis of a violation of sections 222 and 230 of the penal code. The foregoing defendants are acquitted of the charge of homicide and bodily injury due to negligence by reason of having introduced the Calmette procedure in Lübeck. Prof. Dr. Klotz and Anna Schütze, nurse, are acquitted of all charges brought against them." The announcement of the sentence was calmly received by the defendants. Professor Deycke, who had been ill during the last days of the trial, has only recently been able to leave his bed. On the day the sentences were announced, every seat in the court room was taken. A strong cordon of police was placed about the gymnasium in Lübeck, where the trial was held, to prevent possible disturbances.

Thus, one of the most tragic events in the history of medicine was brought to a close—a case in which the whole civilized world took an interest, and which, on several occasions, caused great excitement among the general public. Probably never before, in medicine, has a catastrophe of so great an extent occurred as that which took place in Lübeck in connection with the protective inoculation with the Calmette vaccine. Of 253 inoculated children, 68 died from tuberculosis as a result of the vaccination; more than 100 other children were taken ill, and few escaped entirely. A connected account of this terrible tragedy may not be amiss at this time. On the basis of the first investigations of the causes of the disaster that occurred, the middle of May, 1930, the experts summoned by the state—Prof. Ludwig Lange and Prof. Bruno Lange, members of the federal bureau of health and of the Institut Robert Koch, respectively—called attention, in a communication addressed to the public health service in Lübeck, to the fact that a spontaneous restoration of virulence in the B C G vaccine recommended by Calmette and Guérin for inoculation, which had been deprived of its virulence through cultivation over a period of years, as an explanation for the disasters in Lübeck was not to be considered. In spite of this opinion, which was shared by other experts, and which was announced not only in scientific journals but also in the daily press, certain "friends of the people" thought that this would be an opportune time to prove that vaccinations per se were to blame for everything and that their warnings as to the dangers of protective inoculation in man had been vindicated. Bitter attacks were made on the Calmette vaccination procedure by Friedmann and his followers, to whom the opportunity appeared favorable to launch propaganda in favor of the Friedmann vaccine and remedy for tuberculosis, which was "absolutely harmless." So far as facts are concerned (reported accidents after Calmette inoculations in Spain, Hungary and Bulgaria), the statements were proved later to be false. For lack of genuine arguments, the controversy was often carried on in an underhanded way, insulting attacks being made against Calmette and the German scientists who had recommended a trial of the Calmette procedure in Germany.

Also during the trial, the discussion of the Calmette vaccination procedure naturally played a big part, and here, too, there were several derailments, so to speak; for example, when an attorney for the accessory plaintiffs denounced Calmette as the person chiefly responsible for the Lübeck disasters. By reason of the marked contrasts in the views of the various experts concerning the question of the harmfulness and the effects of the Calmette procedure, the court was confronted with an extremely difficult task. It must be recognized, however, that it proved itself equal to the demands made upon it. The discussions never wandered off into endless medical debates. Owing to the good judgment of the leader of the prosecution, the problem of restoration of virulence of the B C G vaccine was not considered from all possible scientific angles. The greatest emphasis was laid on the question as to whether such a restoration of virulence was to be regarded as a cause of the disasters in Lübeck.

On the basis of the evidence submitted, and especially of the opinions of the experts, the court, as is apparent from the alleged justification for the sentence, accepted, in principle, the possibility of such a thing as a restoration of virulence but expressed a conviction that such a restoration of virulence cannot be regarded as the cause of the disaster in Lübeck, but that, on the contrary, an error in the preparation of the vaccine material in the laboratory must be regarded as proved. Thus, the court took a definite stand that the Calmette protective inoculation procedure as such cannot be considered responsible for the disaster in Lübeck. This conception corresponds to the point of view of the experts who, on the basis of extensive personal experiences with the Calmette inoculation method, have long since formed an opinion in regard to it. And, indeed, the assumption that the disaster was not brought about by a restoration of virulence in the B C G vaccine but by an error in the laboratory can be adequately proved. Against the theory of a restoration of virulence may be adduced, above all, the fact that, up to the present, almost a million children have been vaccinated by the Calmette method without any such accident befalling a single child such as befell the Lübeck children: the development of ingestion tuberculosis causally connected with the inoculation. On the other

hand, the assumption that an error was committed is supported by two important established facts. First, the investigations in the Institut Robert Koch, and later also those in the federal bureau of health and in the hygienic institute of the University of Berlin have shown that a striking similarity existed between the tubercle bacilli derived from the ill and the deceased children, on the one hand, and the Kiel strain of tubercle bacilli, the only strain of pathologic tubercle bacilli in the Lübeck laboratory at the time of the inoculations. The similarity concerns not only a single characteristic but a number of qualities: the behavior in the animal organism, the growth on an artificial culture, particularly the green tinge that appeared in the so-called Sauton culture mediums, and, finally, the chemical composition of the bacilli. According to these observations, it may be assumed that the tubercle bacilli of the pathogenic Kiel culture are identical with the bacilli that brought sickness and death to the infants. It is evident that by mistake the children were inoculated with the pathogenic Kiel tubercle bacilli instead of with the harmless B C G vaccine. Secondly, the assumption of such a confusion is considerably strengthened by the fact that in the laboratory in Lübeck it was shown that the precautions were not observed such as are essential for a systematic carrying out of inoculations.

The court, on the basis of the evidence submitted, pronounced sentence against the two physicians who were responsible for the introduction and carrying out of the Calmette vaccination in Lübeck. The sentence appears severe when it is recalled that both Professor Deycke and Obermedizinalrat Altstaedt are deserving of praise for their many years of activity in the crusade against tuberculosis, and in the application of protective inoculation in Lübeck were certainly actuated by the best motives.

In adjusting the penalty, as is apparent from the court's alleged justification for the decision, account was taken of the extraordinary nature of the disaster, the death of so many children, the sufferings of those taken ill, and the grief of the parents.

Every one regrets deeply the disaster, but sympathy is due the sentenced physicians. It is not so much a question of guilt as of an overwhelming tragical event, which is in part an expression of the characters of the attending physicians but is controlled in part also by a fateful concatenation of a series of unfortunate accidents.

In the alleged justification of the sentence, the court brought out that the death of sixty-eight children and the illness of other children were established by the opinions of the experts as due to the oral administration of the vaccine, or, in other words, to so-called ingestion tuberculosis. After listening to the testimony of specialists, the defendants and witnesses, it is apparent that, with reference to the orally administered bacilli, a reversion of the cultures was involved, which can be explained only as a result of contamination or of an unknown error. From these facts it is evident that not only Obermedizinalrat Dr. Altstaedt but also Professor Klotz and Prof. Dr. Deycke acted in a negligent manner in introducing and applying the procedure. Evidence of negligence lies also in the fact that the vaccine was turned over to parents, midwives and nurses to be administered to the children. Professor Deycke and Dr. Altstaedt were responsible for such negligence. Furthermore, it was shown that the Lübeck laboratory was not properly equipped for the preparation of this vaccine.

In his closing argument, the court, evidently deeply moved, assured Professor Deycke of the esteem of all persons of calm judgment but regretted that Professor Deycke, after devoting his life in so eminent a manner to the welfare of humanity, should have become entangled in a charge of negligence, in spite of the fact that his intensions were unquestionably the best. He recognized also the important services that Dr. Altstaedt had rendered in the crusade against tuberculosis and assured him of the court's faith in the noble motives that actuated his conduct. The disaster was, however, too great to be overlooked in the adjustment of the penalty.

Proof of the objective character of the court's decision lies in the fact that the leading scientific journals, including the special journals, admit that the sentence is in keeping with the legal sense of justice. Every one gives expression to the deepest sympathy for Deycke and Altstaedt, and it is quite evident that they have not forfeited in any wise the respect of their fellow men or of the medical profession. Both defendants, as well as the state's attorney, have appealed, so that the case will be tried again, this time by the supreme court of Germany, the Reichsgericht in Leipzig.

Death of Prof. Ernst Friedberger

The death of Prof. Ernst Friedberger, the director of the Forschungs-Institut für Hygiene und Immunitätslehre in Berlin-Dahlem, after a lingering illness, at the age of 57, is announced. Only a short time ago, Friedberger served as an expert witness in the Lübeck trial. Just recently his deposition had to be taken in his home, as his condition of health would not permit him to undertake the journey to Lübeck. Professor Friedberger was an unusually versatile and original investigator. His home had been originally in Giessen. He attended the universities of Giessen, Berlin, Munich and Würzburg, and then specialized in physiologic chemistry and internal medicine. He was associated for a time with Professor Kolle in bacteriologic studies, went later to the Hygienic Institute in Königsberg, and in 1908 became director of the department for experimental therapy and research on immunization in the Pharmacologic Institute in Berlin. In 1915 he accepted the chair of hygiene at the University of Greifswald, and in 1926 he was appointed director of the institute in Berlin-Dahlem. In all his positions, Friedberger published important researches in widely different fields of hygiene and bacteriology. Investigators from all parts of the world studied under him, attracted chiefly by his publications in the fields of the theory of immunization and of anaphylaxis resulting from hypersensitiveness of the body to injections of foreign proteins.

VIENNA

(From Our Regular Correspondent)

Feb. 7, 1932.

Financial Difficulties and Public Health

The financial difficulties under which the republic of Austria has been laboring during the last nine months, and especially the lack of foreign exchange values, have become, during recent days, so overwhelming that the government authorities have to resort to all sorts of devices to reduce the importation of foreign goods and products. Now, the Austrian pharmacists and druggists obtain the largest part of their medicaments, used in hospitals and by physicians, from Germany, England and America, at an average monthly expenditure normally of about 4,000,000 Austrian shillings ($600,000). Some time ago, the ministry of commerce and finance issued a decree that only 1,500,000 shillings might be expended for foreign medicaments, and just recently this amount was further reduced to 250,000 shillings per month. It must be added that foreign exchange is now purchased in Austria only at the Nationalbank and only with the approval of that bank. Hence, the purchase of foreign medicaments is now confined to articles that are absolutely needed for the preservation of life (morphine, cocaine, arsphenamine, quinine and the like), for which no substitutes are available in Austria. In addition, instructions were issued to all medical men and health officers to be extremely reserved in prescribing such imported preparations, which naturally created great difficulties among those responsible for the care of patients. A further consequence of the abnormal economic situation in this country is the fact that the number of patients

being treated in the hospitals and by private practitioners has greatly decreased. What is especially significant is the fact that, under the present conditions, workmen and employees hesitate to report sick at the *krankenkassen* for fear that they may be dismissed in case they are absent from work. They prefer to apply self-treatment at home and to dispense with a physician. The large number of unemployed, about 10 per cent of the total population of the country (in Vienna about 15 per cent), are, however, in case of illness, much worse off, because their resistance is reduced through lack of food and the cold. Unemployed persons sometimes even allow themselves to be enrolled in a public hospital because they have more comforts there than at home.

Treatment of Cancer of the Uterine Cervix

Professor Adler spoke, at a recent meeting of the Wiener Gesellschaft der Aerzte, on the results of the combined treatment of uterine cancer by means of irradiation and surgical intervention. The operative method he employs is exactly the same as that recommended thirty years ago by Professor Schauta; namely, by the vaginal route. The abdominal method, which was introduced by Wertheim, is, to be sure, much more radical; but its results are not better, as is now conceded by its advocates. Its mortality is, however, three times as great. Dr. Adler scrutinized the mortality figures of women in Vienna from 1924 to 1930 and found that the deaths from uterine cancer are constantly increasing, while the deaths from pulmonary tuberculosis are steadily decreasing. Furthermore, Adler followed up 1,000 cases of cancer of the cervix, which came to operation at the first Vienna gynecologic clinic, during the past thirty years, and obtained the following data: The average operability of the cases was 53 per cent, and about 400 patients were permanently cured. The average mortality of the vaginal operation is 6.1 per cent. With each quinquennium the results improved, the average operative mortality being reduced from 11.37 per cent to 3.5 per cent, while the relative recoveries increased from 34.5 per cent to 50 per cent, and the absolute recoveries from 16.6 per cent to 31.8 per cent. This enormous improvement in the results is due to the postoperative radium and roentgen treatment. A comparison with 1,000 cases of laparotomy shows that, with a somewhat larger operability of the former method, also the permanent results are somewhat better but that the latter method (abdominal) shows a much larger operative mortality, as already stated (20 per cent as against 6 per cent). As compared with irradiation, alone, either operative method is far superior. Only the combination of the two modes of treatment gives a good therapeutic result. The best results are obtained through irradiation with radium applied immediately following the operation, the radium treatment being replaced after a few weeks by a combination of vaginal and rectal radium therapy, together with roentgen irradiation (the Adler method). Since he has been operating under local anesthesia, and radium has been introduced at once, the permanent cures have increased from 42 per cent to 58 per cent. Adler recommends most heartily this mode of treatment but advises the operator not to put his sole trust in the vaginal method, as it would probably be easier to perform a laparotomy in some cases. In patients who under ordinary circumstances would be operable but for whom a contraindication to operation obtains, he uses occasionally only radiation therapy. Professor Adler emphasizes that the treatment of cancer is so difficult that it should be left entirely to the really skilled specialist. Not every surgeon and not every radiotherapeutist can perform such an operation, but only the specialist who has had a wide experience and has been in contact with a large number of cases. He urgently demands that the treatment of uterine cancer in every radium institute be carried out only by a radiologist who has had thorough gynecologic training, for only thus can the optimum be attained.

Marriages

M. GULDEN MACKMULL, Philadelphia, to Miss Beryl Bulman of Vernon, B. C., January 11.

JOHN DAVIDSON WILEY, Milledgeville, Ga., to Miss Frances Reese of Griffin, March 17.

KENNETH K. KINNEY to Miss Claire Calnen, both of Willimantic, Conn., March 26.

LESTER AVANT CROWELL, JR., Lincolnton, N. C., to Miss Elaine Deal, March 24.

Deaths

Alexander Dougall Blackader, Montreal, Que., Canada; McGill University Faculty of Medicine, Montreal, 1871; emeritus professor of pharmacology, therapeutics and pediatrics at his alma mater; past president of the Canadian Medical Association, American Pediatric Society and the American Climatological and Clinical Association; honorary member of the British Pediatric Association; in London held the positions of resident clinical assistant to the Brompton Consumption Hospital, clinical assistant to the Royal South London Ophthalmic Hospital and acting resident physician to the Great Ormond Street Hospital for Sick Children; president of the Alexandra Hospital for Contagious Diseases, Montreal; chairman of the editorial board and editor-in-chief of the *Canadian Medical Association Journal* from 1919 until his resignation in 1929, when he became editor emeritus; in appreciation of his service as editor, and in recognition of his eighty-second birthday, the Canadian Medical Association established, in 1929, the Blackader Lectureship in Diseases of Children; medical adviser to the Bank of Montreal; contributed numerous articles to various textbooks and journals on diseases of infancy and childhood; aged 84; died, March 14.

Jay Ralph Shook ⊕ Colonel, M. C., U. S. Army, Hot Springs National Park, Ark.; University of Maryland School of Medicine, Baltimore, 1899; fellow of the American College of Surgeons; member of the Washington State Medical Association; entered the Army as an assistant surgeon in 1901 and was promoted through the various grades to that of colonel in 1927; on duty at the Army and Navy Hospital; aged 54; died, March 5, in the Walter Reed General Hospital, Washington, D. C.

Stafford McLean ⊕ New York; Columbia University College of Physicians and Surgeons, New York, 1908; clinical professor of diseases of children at his alma mater; attending physician to the Babies' Hospital; attending pediatrist to the New York Orthopedic Dispensary and Hospital; consultant in diseases of children, Tuxedo Memorial Hospital, Tuxedo Park, and the Elizabeth Horton Memorial Hospital, Middletown, N. Y.; aged 46; died, March 13, of heart disease.

Robert Forrester Walmsley, Brooklyn; New York Homeopathic Medical College and Hospital, 1894; member of the Medical Society of the State of New York; fellow of the American College of Surgeons; aged 58; visiting surgeon to the Cumberland Street and Prospect Heights hospitals; associate visiting surgeon to the Carson C. Peck Memorial Hospital, where he died, March 16, of adenocarcinoma of the sigmoid, colon and liver.

Lucius Henry P. Zeuch ⊕ Chicago; Harvey Medical College, Chicago, 1902; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1911; for many years on the staff of the Norwegian-American Hospital; author of "History of Medical Practice in Illinois"; aged 57; died, March 20, of brain tumor.

Herman Ostrander ⊕ Kalamazoo, Mich.; University of Michigan Medical School, Ann Arbor, 1884; past president of the Michigan State Medical Society; member of the American Psychiatric Association; formerly superintendent of the Kalamazoo State Hospital; aged 75; died, March 20, in Melbourne, Fla.

James Henry Gaines ⊕ Surg., Lieut., U. S. N. retired, Washington, D. C.; Jefferson Medical College of Philadelphia, 1870; entered the Navy in 1873 and was retired in 1891 for disability incurred in line of duty; aged 83: died, March 10, in Atlantic City, N. J., of chronic myocarditis and arteriosclerosis.

Porter King Tait, Birmingham, Ala.; Birmingham Medical College, 1903; member of the Medical Association of the State of Alabama; veteran of the Spanish-American and World

wars; formerly on the staff of the Norwood Hospital; aged 62; died, February 25, of a self-inflicted bullet wound.

Antonio Caesar Ventrone ⊕ Providence, R. I.; Tufts College Medical School, Boston, 1913; visiting surgeon in otolaryngology, Rhode Island, City and St. Joseph's hospitals, Providence, and the Memorial Hospital, Pawtucket; aged 41; died, February 26, of carcinoma of the rectum.

Charles Reineck ⊕ Appleton, Wis.; Northwestern University Medical School, Chicago, 1906; past president of the Outagamie County Medical Society; on the staff of St. Elizabeth's Hospital; aged 52; died, March 4, of chronic interstitial nephritis and hypertension.

Joseph Edward Rader ⊕ Huntington, W. Va.; College of Physicians and Surgeons, Baltimore, 1894; fellow of the American College of Surgeons; aged 60; on the staff of the Huntington Memorial Hospital where he died, February 26, of diabetes mellitus and asthma.

Merton Jarvis Sanford, Suffern, N. Y.; Cornell University Medical College, New York, 1904; member of the Medical Society of the State of New York; aged 64; died, March 10, in the Tuxedo Memorial Hospital, Tuxedo Park, of pernicious anemia.

Wilber Elmer Rammel, Bartlesville, Okla.; Gross Medical College, Denver, 1896; member of the Oklahoma State Medical Association; on the staff of the Washington County Memorial Hospital; aged 70; died, March 15, of carcinoma of the larynx.

Carroll Raymond Murch ⊕ Nashua, N. H.; University of Vermont College of Medicine, Burlington, 1925; chairman of the board of health of Nashua; on the staff of the Nashua Memorial Hospital; aged 32; died, February 29, of pneumonia.

La Fayette Alonza Carter, Nashville, Ga.; University of Nashville (Tenn.) Medical Department, 1886; formerly a dentist; aged 73; died, February 29, at his winter home in Boynton, Fla., of pulmonary abscess and cardiac decompensation.

William E. Vaughan, Richmond, Ark.; University of Louisville (Ky.) School of Medicine, 1893; member of the Arkansas State Medical Association; aged 61; died, February 26, of multiple sclerosis and pneumonia.

Albert Wood, Brunswick, Ohio; Western Reserve University Medical Department, Cleveland, 1892; member of the Ohio State Medical Association; aged 69; died, February 16, of heart disease and nephritis.

Solon Briggs, Pasadena, Calif.; Albany (N. Y.) Medical College, 1869; University of Michigan Medical School, Ann Arbor, 1875; aged 86; died, January 22, of arteriosclerosis and cerebral hemorrhage.

Elbert F. Peters, Princeton, W. Va.; Maryland Medical College, Baltimore, 1902; member of the West Virginia State Medical Association; aged 54; died, February 29, of a self-inflicted bullet wound.

Charles Edward Netscher, Lancaster, Pa.; Jefferson Medical College of Philadelphia, 1883; member of the Medical Society of the State of Pennsylvania; aged 74; died, February 22, of cerebral hemorrhage.

Jacob Henry Sampson, Oakland, Calif.; University of Texas School of Medicine, Galveston, 1894; member of the California Medical Association; aged 65; died, February 9, at San Francisco.

James Long McClelland, Los Banos, Calif.; Hahnemann Medical College, San Francisco, 1884; Cooper Medical College, San Francisco, 1897; aged 79; died, January 27, of carcinoma of the stomach.

James Wiley Robertson, Clayton, Ala.; Medical College of Alabama, Mobile, 1893; member of the Medical Association of the State of Alabama; aged 66; died, February 26, of pneumonia.

Robert Homer Mellen ⊕ Seattle; Vanderbilt University School of Medicine, Nashville, Tenn., 1917; aged 60; died, February 17, in the Seattle General Hospital, of bronchopneumonia.

Alexander Wilson Calhoun, Denver; Medical Department of Wooster University, Cleveland, 1890; aged 68; died, Februray 19, in St. Luke's Hospital, of multiple pulmonary abscesses.

Oscar C. Hopper, Stanton, Neb.; Western University Faculty of Medicine, London, Ont., Canada, 1898; member of the Nebraska State Medical Association; aged 62; died, in January.

Jefferson David Herrman, Far Rockaway, N. Y.; University of Georgia Medical Department, Augusta, 1883; formerly mayor of Eastman, Ga.; aged 70; died, January 4, of heart disease.

Arthur Everett Collins, Buffalo; Victoria University Medical Department, Coburg, Ont., Canada, 1887; aged 70; died, February 24, of bronchopneumonia and arteriosclerosis.

James H. A. Lofland, Melfa, Va.; College of Physicians and Surgeons, Baltimore, 1876; aged 82; died, February 29, of uremia and an injury to the femur received in a fall.

William Lawrence Keller, Akron, Ohio; Medical College of Ohio, Cincinnati, 1901; aged 59; died, March 7, in St. Thomas Hospital, following an operation on the gallbladder.

Hazel Eva Culler, Tarrytown, N. Y.; Woman's Medical College of Pennsylvania, Philadelphia, 1924; aged 32; died, March 9, in the Tarrytown Hospital, of pneumonia.

Harry Clinton Dimock, Lompoc, Calif.; Berkshire Medical College, Pittsfield, Mass., 1866; aged 89; died, January 15, of heart disease and chronic articular rheumatism.

Alva M. Shupert, Louisville, Ky.; Kentucky School of Medicine, Louisville, 1892; member of the Kentucky State Medical Association; aged 62; died in February.

Homer George Emery, Denver; University of Michigan Medical School, Ann Arbor, 1887; aged 77; died, February 24, of chronic myocarditis and tuberculous pleurisy.

Edgar Francis Sommer, Indianapolis; University of Indianapolis Medical Department, 1900; served during the World War; aged 56; died in Milwaukee, March 3, of tuberculosis.

Noal W. Spencer, Sioux Falls, S. D.; Medical Department of Omaha University, 1899; aged 57; died, February 20, in the McKennan Hospital, of myocarditis.

Edward Elmore Davis, Dallas, Texas; Hahnemann Medical College and Hospital, Chicago, 1883; aged 69; died, February 21, of acute dilatation of the heart.

Charlotte Peters, St. Louis; Homeopathic Medical College of Missouri, St. Louis, 1883; aged 80; died, January 2, of an injury received in a fall and myocarditis.

John Frank Cramer, Bennett, Colo.; Missouri Medical College, St. Louis, 1886; aged 75; died, February 22, in St. Joseph's Hospital, Denver, of uremia.

Samuel Adams Owens ⊕ Tacoma, Wash.; Forth Worth (Texas) School of Medicine, 1897; aged 65; died, February 1, in a local hospital, of heart disease.

Roderick Blake Wittich, Columbus, Ohio; Bellevue Hospital Medical College, New York, 1896; aged 60; died, February 28, of diabetes mellitus.

John H. Lock, Philadelphia; Jefferson Medical College of Philadelphia, 1883; aged 74; died, February 27, of cardiac infarction and arteriosclerosis.

Joel O. Williams, Los Angeles; Miami Medical College, Cincinnati, 1876; aged 78; died, January 24, of angina pectoris, gallstones and kidney stones.

Loftus Alexander Truman, Hamilton, Ont., Canada; University of Toronto Faculty of Medicine, 1905; aged 59; died, January 30, of pneumonia.

Theodore Edward Percival, Greenwood, S. C.; Howard University School of Medicine, Washington, D. C., 1928; aged 30; died, Dec. 28, 1931.

John A. White, Olin, Iowa; Rush Medical College, Chicago, 1871; Civil War veteran; aged 92; died, February 24, of heart disease and influenza.

Henderson Lynde Bryce, Kelowna, B. C., Canada; University of Toronto Faculty of Medicine, 1913; aged 41; died, January 1.

Felix Long, Enfield, Ill.; American Medical College, St. Louis, 1880; aged 73; died, February 29, of carbolic acid poisoning.

Calvin J. K. Moore, Thomas, Okla.; Tennessee Medical College, Knoxville, 1894; aged 71; died, February 21, of nephritis.

Hugh Edward Rogers, Brooklyn; Long Island College Hospital, Brooklyn, 1898; aged 56; died, February 15, of heart disease.

Henry G. Tucker, Cromwell, Ind. (licensed, Indiana, 1897); veteran of the Civil War; aged 93; died, March 9, of carcinoma.

Clifton Stratford Morse, Canton, Ohio; Starling Medical College, Columbus, 1880; aged 73; died, March 4, of pneumonia.

John Owen Duguid ⊕ Springfield, S. D.; Rush Medical College, Chicago, 1897; aged 67; died, February 29, of sarcoma.

Adelaide N. Abbott, Boston; Vermont Medical College, Rutland, 1891; aged 89; died, February 24, of pneumonia.

John C. Paugh, Mason, Ill. (licensed, Illinois, 1877); aged 90; died, February 23, of pneumonia.

Correspondence

INDUSTRIAL THALLIUM POISONING

To the Editor:—The article by Mahoney on thallium poisoning after cosmetic use (THE JOURNAL, February 20, p. 618) has attracted so much interest in this toxic agent it becomes desirable to note other opportunities for damage. In the manufacture of thallium products, those so employed may become affected, leading to occupational thallium poisoning.

It may not be maintained that large numbers of workers are exposed to thallium, or that many industries find use for this metal or its compounds. Industrial application has, however, been noted in thallium recovery from flue dusts, from ores and from the sludge of sulphuric acid making; in the making of rat poisons; in the preparation of depilatories and other pharmaceuticals; in making artificial gems; in marine pyrotechnics; in special glasses; in electric cells similar to selenium cells; in disinfectants; in low temperature thermometers as an amalgam with mercury; in light filaments; in dye manufacture, and in lead alloys.

A deterrent to any extensive use lies in the cost. At present the cost per pound approximates $12. The supply is partly through importation (particularly the sulphate) and partly through domestic manufacture, associated with the purification of cadmium—itself a rare metal.

The possible compounds of thallium, both organic and inorganic, make an enormous list, as may be noted in such textbooks as Mellor's (A Comprehensive Treatise on Inorganic and Theoretical Chemistry, volume 5, Rare Earth Metals). Those in practical use are the acetate, carbonate, chloride, hydroxide, nitrate, oxide and oxysulphide forms. Thallium may enter the body through oral intake, through inhalation of dusts or vapors, and through the skin. In industry, inhalation and skin absorption are the obvious portals of harm. The manifestations of industrial thallium poisoning are not unlike those mentioned by Mahoney and found in the literature cited by him.

With reference to the industrial dangers from this substance, Teleky (The Dangers of Thallium, *Zentralbl. f. Min.*, 1929, number 11, part A, p. 396) says:

"Industrial exposure to fumes and dust of thallium compounds leads to a condition which shows itself chiefly by a coloration, the hair becoming reddish and then falling out. There are also pains in the limbs, chiefly in the knees and calves, which may be so severe that they compel the patients to draw sick pay for from one to three weeks. Severe symptoms were observed among workers who were employed on this substance for a few months, and in two workers there was a chronic inflammation of the kidneys. Thallium preparations exert a specific dangerous effect on the eyes. Of six persons who were employed on these preparations, one developed atrophy of the optic nerve after four months, and in another optic neuritis developed after three months. Workers with salts of thallium should prevent the escape of vapor or dust, or divert by suitable exhaust systems what cannot be prevented and might be inhaled. The material should be handled only when india rubber gloves are worn.

"Every one who has to work with thallium should undergo a medical examination of the eyes every six to eight weeks, to detect any changes of the optic nerve as early as possible."

Buschke, writing on industrial poisoning with thallium (*Med. Klin.* **24**:1042 [July 6] 1928; abstr. *J. Indust. Hyg.* **11**:89, 1929; THE JOURNAL, Sept. 8, 1928, p. 764), cites official reports from various places in Prussia in which thallium is used in industrial processes. Optic nerve atrophy, chronic nephritis, pains in the extremities, loss of the patellar and the achilles tendon reflexes, eosinophilia, and lymphocytosis were reported as having occurred in men who had worked from a few days to a few months with thallium.

Since other metals may bring about industrial intoxications simulating thallium poisoning, precise proof of the existence of this condition may become difficult. From animal experiments it appears established that thallium is eliminated in the urine and feces. Through the examination of properly prepared specimens of urine or feces, with the aid of the spectroscope, or by the iodine and chloroplatinate method, precise diagnosis may be made.

Any industry using thallium compounds under conditions that provide dusts, vapors or skin contact may do well to procure medical examination of all exposed workers, with the objective of providing protection wherever needed against industrial thallium poisoning.

CAREY P. MCCORD, M.D., Cincinnati.

"ALLERGIC MANIFESTATION TO INSULIN"

To the Editor:—In THE JOURNAL, Dec. 19, 1931, page 1885, there is an article by Dr. William H. Grishaw of Los Angeles entitled "Allergic Manifestation to Insulin," in which Dr. Grishaw concludes that such manifestations are due not to the insulin itself but to something in the particular brand used. This fact is known among those handling many diabetic patients and Joslin (1928 edition) mentions a patient in the early days of insulin therapy who could not stand insulin derived from pig pancreas but who could take without difficulties that derived from beef pancreas. Recently there was a patient at a New Jersey institution with which I was connected who developed large, wheal-like, indurated spots, lasting several days, only at the sites of injection, when one reputable brand of insulin was used, but had no reaction at all when another was used. The local reactions were not materially influenced by altering the strength of the insulin solutions, the number of units being constant. With the reaction-producing brand, however, the local reactions seemed to vary slightly and directly with the number of units.

As stated, this sensitivity of certain individuals to specific brands of insulin is known to specialists, but I get the impression that it has escaped the attention of many practitioners, and this is my excuse for sending these lines on a subject already presented so much more thoroughly by Dr. Grishaw.

FRANCIS FIELDING-REID, M.D., Baltimore.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

INDUSTRIAL HAZARDS IN RADIO FACTORY

To the Editor:—In a radio factory there are a group of men employed in soldering condenser plates to a brass bar. The condenser plates are of cold rolled steel covered with a deposit of tin. The brass bar is taken from a solution composed of "sal ammoniac" (ammonium chloride—NH_4Cl) 7 to 8 pounds, glycerin, 12,000 cc., alcohol, 8,000 cc., and water, 15,000 cc., and while the bar is still wet the condenser plates are soldered to it by placing a strip of solder on the bar and melting the solder with a soldering iron that has been heated in a gas flame. The solder used is composed of equal parts of lead and tin. Quite dense fumes are formed during the process and inhaled to some extent by the workers. A great many of the men after being engaged in this work for six or more months begin to complain of a loss of appetite, headache, vertigo and vague abdominal pains. None of them show any of the typical symptoms of lead poisoning, such as the blue lines on the gums, anemia, or stippling of the red blood cells. Could you suggest a possible cause for the production of the symptoms of which they complain

H. S. KINLOCH, M.D., Philadelphia.

ANSWER.—In this situation, so concisely described in the query, it is probable that any occupational disease is due to "mixed intoxication."

These mixed intoxications are often overlooked by industrial physicians in their desire to place etiologic responsibility on precise and single intoxicants. The ammonium chloride (sal ammoniac) is relatively harmless. Massive quantities of this substance are used as a fluff over the crucible in galvanizing, leading to dense fumes but to little important physical impairment of workers. Large doses are administered in the treat-

ment of lead poisoning, without harmful results, except for nausea and low grade gastro-intestinal inflammation after prolonged dosage, and sometimes giving rise to acidosis.

Glycerin in contact with a highly heated soldering iron is decomposed, leading to the formation of acrolein, which primarily is an irritant to the conjunctivae and respiratory tract.

The type of alcohol used is not specified, but it is assumed not to be methyl alcohol. Methyl alcohol under the influence of heat would decompose with some formation of formaldehyde. Ethyl alcohol will similarly decompose, but it is not known that its products are significantly harmful.

Lead stands out as the possible intoxicant under the industrial operation described. Even though the well known characteristics of frank plumbism are not readily established, it is believed that lead may play some part in the totality of manifestations encountered. In addition, tin may contain sufficient arsenic as an impurity to give rise to arsenic poisoning. Such diseases among tinners are well established, although fairly infrequent. Although emphasis has been placed on the probability of mixed intoxication, greater significance is attached to lead and arsenic.

TREATMENT OF GOITER BY SURGERY AND BY X-RAYS

To the Editor:—I am writing you with reference to a patient who was operated on two years ago by a well known Brooklyn surgeon for exophthalmic goiter. At that time she had all the signs and symptoms. At the operation two distinct enlarged "thyroids" somewhat degenerated in character, extending downward, were found. I understand that an incomplete thyroidectomy was performed. There was much bleeding and, on account of the type of tissue, ligatures were difficult. Following this the patient improved, she gained weight, the exophthalmos diminished, and the nervous signs and symptoms decreased. The patient resumed her work as a school teacher two months after the operation. This was probably too early. For the past six months she has again developed nervous irritability, tachycardia has risen to 116 although the latter has existed for about a year, pain has been felt over the pecordial area for the past three months (not continuous but at times rather severe), and shortness of breath occurs on slight exertion. There has been no loss of weight. The gland appears to be somewhat swollen but not markedly so. Both lobes show a slight prominence. The patient's metabolism has ranged between plus 45 and 55. A year previous to the operation the patient weighed 180 pounds (81.6 Kg.). At the time of the operation she weighed 150 pounds (68 Kg.). In the past two years since the operation patient has gained up to 162 pounds (73.5 Kg.), which weight she has maintained for the past year. The patient continues her work as a school teacher. The surgeon referred to has recently suggested that the patient undergo another operation. He pointed out to her the difficulty he had to cope with in the operation. Will you be good enough to give me your opinion on the question of roentgen therapy? The surgeon in question has little faith in this form of treatment for her type of goiter. I am much interested in securing the proper method of approach to a possible cure for this patient and would inquire of you whether further surgical measures should be invoked as suggested by the surgeon, in whom both the patient and I have implicit faith. The symptoms uppermost in my mind which I should like to see improve or cured are the tachycardia, precordial pain and dyspnea. There has been for the past fifteen months a history of psychologic trauma—trauma to the patient. May this be an etiological element?

DAVID R. BACKER, M.D., Brooklyn.

ANSWER.—The control of hyperthyroidism by the surgical removal of thyroid tissue is theoretically, and in most cases practically, within the power of the surgeon. There seems to be a definite relationship between the amount of hyperplastic thyroid substance which should be left undisturbed and the degree of control obtained. If an insufficient amount is removed, hyperthyroidism will not be controlled; if an insufficient amount is left in situ, postoperative myxedema will result. Fortunately there appears to exist a rather wide factor of safety between these two extremes. The surgeon, therefore, removes proportionally that amount of thyroid tissue which in his experience controls the average case.

Two factors may interfere with satisfactory results: First, operative difficulties, such as excessive hemorrhage, may interfere with a satisfactory surgical procedure; second, the thyroid tissue in an individual case may possess unusual tendencies for regeneration. Neither of these eventualities may be foretold. Aside from gross errors in surgical technic, these two factors seem to be the chief contributors toward unsatisfactory control of hyperthyroidism by surgical means.

In the case in question it appears that operative difficulties interfered with satisfactory thyroidectomy. The patient appears to be one in whom hyperthyroidism has been but partially controlled by the operation. In view of the fact that thyroidectomy under iodine control carries with it a low mortality rate (1 per cent in the hands of some of our best surgeons) and that thyroidectomy offers the most certain means of control of this serious disease process, it seems logical that a second thyroidectomy should be attempted in this instance. Final success in the hands of an experienced surgeon in thyroid work may be anticipated.

Tachycardia, precordial pain and dyspnea indicate some degree of injury to the heart. This is most likely due to long continued hyperthyroidism. It is the opinion of most internists that, even with considerable myocardial damage due to long continued hyperthyroidism, surgical intervention is attended with but little risk to life and offers the best and most certain means of control. Roentgen treatment is believed to offer less certain results and is but little used in most thyroid clinics. It is not recommended in this case.

The etiology of exophthalmic goiter is not known; "psychologic trauma" appears to be a factor in some cases and may be in the present instance.

CHROMIUM POISONING AND LUDWIG'S ANGINA

To the Editor:—A man, aged 44, has been working for the past three years in a plating room within which he has been constantly exposed to chromic acid gas fumes and, as a consequence, a typical chromic acid ulceration of the medial nasal septum has developed. Simultaneously, there has appeared an ulceration of the external auditory meatuses, associated with a peculiar remissive erysipeloidal reaction about the cheeks. Quite recently, severe Ludwig's angina developed, necessitating emergency measures and subsequent removal of all the teeth. What, if any, is the relationship between the exposure to chromic acid fumes and the onset of Ludwig's angina? On four occasions "trembles" or "shakes" have been present, without elevation of temperature. The patient abstains from alcohol and smokes moderately. He has passed blood rectally on three occasions. Proctoscopic examination does not reveal any pathologic changes in the rectum or sigmoid. What internal damage, if any, might have been done by the chromic acid? Literature on this subject is lacking. Please omit name.

M.D., New York.

ANSWER.—In THE JOURNAL, July 11, 1931, page 95, systemic poisoning by chromium compounds is discussed. Chromium forms two series of compounds, the acids like chromic acid and its salts, the chromates; and metallic salts such as chromium chloride or chrome alum. In this case it is evidently the acid series. Chromic acid is unlike most irritants of the flesh in that its action is not quickly stopped by neutralization or hydrolysis. Contact with tissues leads to an immediate combination, so that any concept that the chromium ion as such may be transported to other portions of the body and there do harm is probably ill founded. Nevertheless, local contact between chromic acid and flesh may eventuate in systemic impairment from secondary infection, from sensitization and possibly from the action of the protein-chromic acid combinations produced at the site of the local lesion. The tissues immediately involved in the local injury are likely to remain uninfected, owing to the bactericidal action of the chromic acid, but bordering tissues may become infected.

"Sensitization" is possibly an unfortunate term to apply to increased responsiveness to the action of a nonprotein substance. Any such use implying that the described condition is anaphylaxis is possibly unwarranted. However, it must be recognized that repeated exposures to many metals and to other industrial and nonindustrial nonprotein substances induce a condition closely akin to protein sensitivity. Ludwig's angina is probably always a bacterial infection, disseminated from the glands of the neck. In the absence of other circumstances accounting for such an infection, it is reasonable to attribute the condition to the ulcerative action of either chromic acid or chromium salt along the respiratory tract and possibly the mouth. No inconsistency is felt in attributing all the manifestations cited in the query to chromic acid, even though the action is limited to the region of first contact.

EFFECTS OF MOTHER'S ALLERGENS ON CHILD

To the Editor:—If I were to immunize a mother of a one month old baby against hay fever of the ragweed variety would there be any effects of a deleterious nature on the child by way of the milk?

S. GARSON SLO-BODKIN, M.D., Brooklyn.

ANSWER.—There would almost certainly be no deleterious effect on the child. It is true that proteins, including pollens, can be transmitted to the child by way of the milk. However, it has been repeatedly shown that one cannot sensitize a nonallergic person by injections, inhalants or ingestion. The person must have inherited the predisposition in order to be sensitized. The child in this case is either allergic or nonallergic. If nonallergic, the injections of pollen extract into the mother can do the child no harm. If allergic, the child would probably be benefited, if affected at all, by giving of increasing doses of pollen extract. References may be had from the new book by Coca, Walzer and Thommen, pages 56 and 57, as well as from articles mentioned on these pages.

BITE OF "JELLYFISH" OR "STINGING NETTLE"

To the Editor:—During the summer the bathers at this station are annoyed by the bites or stings of "jellyfish" or the so-called stinging nettles, and search of the available literature fails to reveal any definite treatment for prevention or alleviation of these stings. Please give me some reference to, or some form of treatment.

J. G. REEVES, M.D., Hampton Roads, Norfolk, Va.

ANSWER.—The Portuguese man-of-war, or jellyfish, is closely related to the sergeant fishes. It is of small size and inhabits tropical parts of the Atlantic and Indian oceans.

The Portuguese man-of-war is one of the so-called jellyfish belonging to the Siphonophora. It floats on the surface of the water and has long retractile tentacles, sometimes several feet in length, and contains batteries of stinging capsules, powerful enough to sting the hand as severely as a nettle. The greater the number of the cells which sting an individual, the more severe is the pain. A poison has been isolated from Physalia by Portier and Richet (1902) under the name of "hypnotoxin." Solutions of this substance killed experimental animals; they became somnolent, and death followed through paralysis of the respiration. The intensity of the effects are supposed to depend also on the size of the animals. After removal from water, the stinging property diminishes, but it is reported that the irritative property, unattended, however, by any of the constitutional effects, remains in the tentacles for a long time. Bennett (1831) even reports that in touching a handkerchief some weeks after it had been used in wiping off some of the portions of the tentacles the stinging property was found to have remained, although it had lost its virulent quality, which produced on fresh application violent constitutional symptoms.

Dr. Clarke Abel describes his own symptoms, mentioning especially "the aching pain in the armpit, accompanied by a sense of restriction within the chest; within fifteen minutes all uneasiness ceased."

Just what treatment would be best we are unprepared to say, for the subject has not been sufficiently studied, and with the exception of Old's (1908) paper, little of a satisfactory nature exists in literature bearing particularly on this phase of the subject. That sedatives can be used to relieve the pain is evident, and on general grounds one would be inclined to suggest local alkaline applications as used by Old, provided the case was seen immediately. The use of a lotion of 50 per cent alcohol has also been suggested.

ROOM TEMPERATURE AT NIGHT—USE OF PHENOBARBITAL

To the Editor:—1. Why is it necessary to keep a room from 10 to 15 degrees cooler at night than in daytime? 2. For a high-strung, hard-working man of 60, who uses tobacco and coffee to excess, how much harm is there in giving him a phenobarbital tablet (1½ grains) night and morning? The phenobarbital seems to enable him to be more temperate in his cigaret smoking and I am hoping that the medication may do him more good than harm. Please omit name and city.

M.D., Texas.

ANSWER.—1. The underlying principle of desirable room temperature for healthy persons is to keep it at the lowest point compatible with comfort. Owing to the covering used, this point is considerably lower at night than during the day.

2. Probably the phenobarbital is not objectionable when used as a temporary expedient during the period of weaning from the excessive use of the coffee and tobacco.

PROPHYLAXIS OF IMPETIGO IN MATERNITY WARD

To the Editor:—For a period of months among new-born infants I have encountered spasmodic recurrences of a skin condition which I have diagnosed as impetigo contagiosa. For weeks there will not be a case and suddenly a new case will crop out. It is never serious and responds rapidly to 1 per cent ammoniated mercury ointment, and usually consists of a few small blebs, most of which are frequently situated on the buttocks. Many times my technician has reported sterile cultures from the blebs. As far as I can see, every precaution is being used except that the nurse who is responsible for the babies does not wear rubber gloves; but she scrubs her hands for three minutes between babies. I have gone into my technic carefully and can find no break in it. The babies are anointed with 5 per cent ammoniated mercury ointment soon after birth. The head nurse in the ward says she thinks it must come from the laundry. The diapers from the laundry give a slight acid reaction. Would you mind writing any suggestions you may have to offer? Please omit both name and city.

M.D., Massachusetts.

ANSWER.—Impetigo, pemphigus, or pyodermia neonatorum, all three terms being in more or less general use, has come to be endemic in a large number of maternity wards connected with general hospitals. Frequently these wards have to be closed down for disinfection and renovation. This is sometimes made necessary by the development of virulence of Staphylococcus aureus, the organism usually causative, and as a result the cases become serious and not seldom fatal.

In isolated maternity wards the outbreaks occur with much less frequency and it seems pretty well established that the contagion comes from the proximity of other forms of staphylococcus infection.

The method of transmission is not fully understood, but probably all three of the recognized routes of transmission are operative at one time or another: direct transference, indirect transference by means of infected linen (defective laundry, for example), and air-borne bacteria. Some recent studies of a new hospital laundry have shown that Streptococcus anaerobius can survive the routine washer and drying tumbler.

On the lines of prophylaxis, the strictest isolation of the maternity ward must be effected and the sterilization of all the linen that comes in contact with the new-born.

The disease is highly contagious and infectious and the general rules regarding such conditions should be put into operation.

TOLYSIN—NOT A NEW DRUG

To the Editor:—It seems to me that the statements made in the recent booklet sent broadcast by the Calco Chemical Company—"An Advance in Chemical Therapy"—in which the implication is made that Tolysin is a new and valuable drug, should be met by an equal amount of publicity stating the true facts in THE JOURNAL.

M.D., Boston.

ANSWER.—The pamphlet mentioned gives the impression that Tolysin is a new drug; in it are such subheads as "The New Chemical"; it contains a list entitled "New properties with the new chemical." In a circular letter under date of January, 1932, the Calco Chemical Company mentions the important difference between the "natural or synthetic drugs and a true chemical"—whatever that may mean. In the final paragraph of the pamphlet is the statement:

"The present agitation concerning cinchophen toxicity has confused the issue with that of Tolysin. In this regard it should be noted that Tolysin is NOT a direct derivative of cinchophen, nor chemically an acid, but is the ETHYL ESTER OF PARAMETHYL phenylcinchoninic acid."

Tolysin is simply the brand name of the Calco Chemical Company for neocinchophen. Neocinchophen (the ethyl ester of paramethyl phenylcinchoninic acid) is closely related to cinchophen (phenylcinchoninic acid). The proprietary brand "Novatophan" was introduced in medicine long before Tolysin was made by the Calco Chemical Company (N. N. R., 1911). Tolysin was the first brand of neocinchophen to be manufactured in the United States (about 1919), Novatophan having been imported from Germany. Neocinchophen-Abbott, Neocinchophen-Benzol Products Co. and Neocinchophen-Squibb are described in New and Nonofficial Remedies as accepted nonproprietary brands. Tolysin does not stand accepted by the Council on Pharmacy and Chemistry.

EFFECTS OF INSULIN REACTIONS

To the Editor:—Are repeated insulin reactions of moderate severity injurious to the diabetic patient outside of the immediate effect of the reaction? What effect are moderate reactions supposed to have on the progress of the diabetes? It has been stated that mild insulin reactions may stimulate the pancreas and be of benefit to the patient. Is this true? Please omit name.

M.D., Oklahoma.

ANSWER.—Insulin reactions, even of moderate severity, are in some instances definitely injurious to the diabetic patient. Recently a fair amount of literature has been accumulated showing that in older diabetic patients, particularly, insulin reactions may produce attacks of angina pectoris and even of coronary thrombosis. It has even been shown that the therapeutic use of insulin in this type of case is not without danger. However, it is a rather interesting observation that even very low blood sugar in the human body rarely leads to death. We know of no evidence proving that mild insulin reactions stimulate the pancreas and are of benefit to the patient.

OPERATION FOR CLEFT PALATE

To the Editor:—A girl, born Nov. 29, 1931, has a cleft soft palate but is otherwise normal. Her breathing is noisy, her nutrition is normal and she manages to take her nourishment without too much nasal regurgitation. Since there is no immediate necessity for operating, when is the most advantageous time for surgery? Please omit name.

M.D., Minnesota.

ANSWER.—It is probable that both the breathing and the swallowing will improve with time. Nothing is gained by early operation in these cases, and the closure is more easily accomplished and with greater certainty of primary healing at the age of a year or 15 months than in early infancy.

PERSISTENCE OF STREPTOCOCCI IN SCARLET FEVER

To the Editor:—Dr. J. E. Gordon, in THE JOURNAL, February 13, states that only 174 out of 1,812 patients with uncomplicated scarlet fever, on the twenty-eighth day, continue to have hemolytic streptococci in the nose and throat. On the other hand, the following statement appears in Park and Williams' "Pathogenic Micro-Organisms" (ed. 8, p. 307): "Pilot and Davis (*J. Infect. Dis.* **24**: 386 [April] 1919) have found that the tonsillar crypts in apparently normal cases contain hemolytic streptococci in almost 100 per cent of the many examined, while the surface of the tonsils show few." How are these widely varying statements to be reconciled? Are the streptococci normally present killed off during convalescence from scarlet fever?

HARRY MOSKOWITZ, M.D., Mineola, L. I.

ANSWER.—The methods of examination used by Gordon undoubtedly vary greatly from the methods used by Pilot and Davis. The latter investigators took pains to obtain material for cultures from the depths of tonsillar crypts and there is little reason to doubt that hemolytic streptococci of some sort are present to some extent constantly in the depths of the tonsillar crypts. So far as known, no exact determination has been made of the varieties of hemolytic streptococci in the tonsillar crypts in apparently normal persons. In the work described by Gordon, on the other hand, cultures undoubtedly were made with material obtained from passing swabs over the surface of the tonsils and over the mucous membrane of the nose. The cultures in this case would represent mainly the organisms on the surfaces of these parts and if colonies of hemolytic streptococci develop promptly, that is, in twenty-four hours or so, the diagnosis of scarlet fever streptococci appears warranted under the circumstances. Prompt development of numerous colonies of hemolytic streptococci does not follow swab or surface cultures of the nose and throat in normal persons.

USE OF CALCIUM COMPOUNDS IN TUBERCULOUS ENTERITIS

To the Editor:—In tuberculous enteritis, what substances are destructive or inhibitive to the growth of the tubercle bacilli? Are any of these substances available for administration by mouth?

RICHARD H. LYON, M.D., Seattle.

ANSWER.—In previous years certain chemical substances—principally the creosote series—were used to inhibit the growth, or to destroy, tubercle bacilli in the body. Tuberculosis workers have learned the inadequacy of such measures and these substances have been discarded almost entirely. It is felt that the improvement in the patient, consequent on the taking of a balanced dietary, with an adequate amount of mineral salts and vitamins, allows of an increased phagocytosis, which increases the destruction of tubercle bacilli. The improved condition of the tissues also enables not only a resorption of the inflammatory exudate in tuberculosis but a walling off of the tuberculous process, thereby preventing the spread of such disease. Calcium therapy in tuberculosis is considered one of the most important considerations. Calcium absorption is apparently dependent on the vitamin D function in the body. The vitamin D is obtained through the use of cod liver oil, viosterol or ultraviolet therapy. In tuberculous enteritis, calcium therapy is a most important consideration. In the active case the giving of calcium chloride, in amounts of from 5 to 10 cc., of a 5 per cent solution intravenously or calcium gluconate intravenously or intramuscularly at intervals of from forty-eight to seventy-two hours is effective in checking the diarrhea and relieving the pain. Such calcium therapy can be continued to make certain an adequate calcium absorption.

SENILE KERATOSES AND WHITE GOLD

To the Editor:—Recently I had occasion to treat a patient who had numerous senile keratoses scattered about the nose and face. The patient told me that the lesions were the result of a skin irritation produced by wearing white gold spectacles. A local optometrist tells me that he has a great deal of trouble with certain of his patients who develop skin irritation following the use of white gold spectacles. He says that not all patients for whom he has furnished such spectacles develop such irritation but only a small proportion of them. Are there cases reported of dermatitis following the wearing of white gold jewelry or spectacles? If so, is such a dermatitis likely to develop into a keratotic lesion?

O. M. UNGER, M.D., Providence, R. I.

ANSWER.—It is possible that in an idiosyncratic patient prolonged contact between skin and white gold might produce the type of eczema known as dermatitis venenata. Such an occurrence, however, is exceedingly rare and the dermatitis would disappear shortly after contact with the metal is discontinued. Such dermatitis would not lead to keratosis. The portion of spectacles or eye-glasses made of any substance that rests on the nose may through continuous irritation over a long period produce a keratosis or epithelioma at the point of contact. This, however, is a rare phenomenon.

It is almost certain that the number of keratoses scattered over the nose and face in the case of the patient mentioned had no connection whatever with the wearing of white gold spectacles.

PREMATURE INFANTS

To the Editor:—Is it possible for a mature child to be born in seven and one-half months? Would the baby have to be kept in an incubator? Please omit name and address.

M.D., Illinois.

ANSWER.—Many infants born after seven and one-half months of intra-uterine life develop into normal individuals. It is taken for granted that they have their full physiologic development for their age without pathologic complications.

Such an infant should be protected for several weeks by a heated bed of one kind or another.

Breast milk as a feeding is indicated when it can be obtained.

TRANSMISSION OF WHOOPING COUGH BY PHYSICIAN

To the Editor:—What chance is there for a physician calling on a patient with whooping cough to carry the germs home with him and to infect his own children who have not had the disease? Would you, under such conditions, advise that a gown be worn while calling on the patient with whooping cough? It is my impression that the germs which cause whooping cough are very short lived on clothing or other dry material and that such care as we commonly exercise when treating scarlet fever is not necessary when treating pertussis. If you would kindly put me right on this matter I should appreciate it. Please omit initials, name and address.

M.D., Maine.

ANSWER.—It is possible that a physician in caring for a patient with whooping cough may become a temporary conveyor of the germs of whooping cough either by deposit on his clothing or by lodgment in the nose or throat. No exact estimate of the danger from such conveyance can be made. Physicians should always wear gowns when attending patients with whooping cough or other infectious diseases and they should protect themselves as much as they possibly can from the lodgment of infectious particles on the face, the mucous membrane of the nose and throat, and the hands. The best protection against the lodgment of infectious particles in the nose and throat is to wear a mask.

PROETZ TREATMENT IN SINUSITIS

To the Editor:—How efficient is the sinus treatment of Proetz proving to be? Is it being generally adopted? Please omit name.

M.D., Great Falls, Mont.

ANSWER.—The Proetz treatment is of great benefit in diseases of the ethmoids and sphenoids. Although it is being used by a number of rhinologists, one cannot say that it has as yet been generally adopted.

ACNE AND MAKE-UP

To the Editor:—I am seeing an unusually large number of cases of acne in a girls' school, and I am wondering whether the use of "make-up" has anything to do with it. It is conceivable that cosmetics might be contaminated with micro-organisms, or cosmetics might cause acne by interfering with the functions of the skin, but is there anything in medical literature mentioning the use of cosmetics as a positive cause of acne? Please omit name and address.

M.D., Virginia.

ANSWER.—Creams and other fats massaged and worked into the skin tend to clog up the sebaceous glands and increase the formation of blackheads and acne. That is particularly true if there is not free washing of the face to get rid of fat applied to it. The excessive use of cold cream and the insufficient use of soap and water are the only things in the present routine of using cosmetics that would likely increase acne. Powders and rouges, except as they are mixed with grease in packets, can hardly be indicted as causing acne.

PERSISTENT FLOW OF MILK

To the Editor:—In Queries and Minor Notes (THE JOURNAL, January 30, p. 420) I notice the question and answer on persistent flow of milk. I do not think this condition is as rare as the authorities think. I have had two cases in my practice. I think we country doctors don't report them. They were both controlled by 1 per cent atropine in glycerin applied under a binder. Of course, the cure might have been the result of coincidence, but the condition had lasted for a year or more after weaning in each case. Each case got slight constitutional effect of atropine. I think this department of THE JOURNAL is one of the best features for the general practitioner.

J. M. PRICE, M.D., Live Oak, Fla.

Council on Medical Education and Hospitals

COMING EXAMINATIONS

AMERICAN BOARD FOR OPHTHALMIC EXAMINATIONS: New Orleans, May 9. Montreal, Sept. 19. Sec., Dr. William H. Wilder, 122 S. Michigan Ave., Chicago.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: *General Examination.* New Orleans, May 10. Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh.

AMERICAN BOARD OF OTOLARYNGOLOGY: New Orleans, May 9. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

ARKANSAS: *Basic Science.* Little Rock, May 2. Sec., Mr. Louis E. Gebauer, 1002 Donaghey Bldg., Little Rock. *Regular.* Little Rock, May 10-11. Sec., Dr. Sam J. Allbright, Searcy. *Eclectic.* Little Rock, May 10. Sec., Dr. Claude E. Laws, 803½ Garrison Ave., Fort Smith. *Homeopathic.* Little Rock, May 10. Sec., Dr. Allison A. Pringle, Eureka Springs.

MINNESOTA: Minneapolis, April 19-21. Sec., Dr. E. J. Engberg, 524 Lowry Bldg., St. Paul.

NEBRASKA: *Basic Science.* Omaha, May 3-4. Dir., Mrs. Clark Perkins, Lincoln.

NEVADA: Carson City, May 2-4. Sec., Dr. Edward E. Hamer, Carson City.

Delaware December Report

Dr. Harold L. Springer, secretary, Medical Council of Delaware, reports one physician licensed at an examination held, Dec. 8-10, 1931, two physicians licensed by reciprocity with other states and one physician licensed by endorsement of credentials, Dec. 15, 1931. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
McGill University Faculty of Medicine		(1929)	84.2

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Boston University School of Medicine		(1912)	Mass.
Jefferson Medical College of Philadelphia		(1907)	N. Carolina

College	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
McGill University Faculty of Medicine		(1929)	N. B. M. Ex.

Mississippi Reciprocity Report

Dr. Felix J. Underwood, secretary, Mississippi State Board of Health, reports 11 candidates licensed by reciprocity with other states, Dec. 17, 1931. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Emory University School of Medicine		(1930)	Georgia
Northwestern University Medical School		(1922)	Illinois
University of Illinois College of Medicine		(1931)	Utah
University of Louisville School of Medicine		(1928)	Kentucky
Tulane University of Louisiana Medical Department		(1892)	Louisiana
Tulane University of Louisiana School of Medicine		(1930)	Alabama, Louisiana, Tennessee
Medical College of the State of South Carolina		(1930)	S. Carolina
Baylor University College of Medicine		(1930)	Louisiana
Osteopath			Illinois

Utah December Report

Mr. S. W. Golding, director, Utah Department of Registration, reports the written examination held at Salt Lake City, Dec. 1-2, 1931. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Six candidates were examined, all of whom passed. Six physicians were licensed by reciprocity with other states, and 2 physicians were licensed by endorsement of credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Northwestern University Medical School		(1931)*	87
Washington University School of Medicine		(1931)	88, 89
Creighton University School of Medicine		(1931)	85, 85, 86

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
State University of Iowa College of Medicine		(1930, 2)	Iowa
Columbia University College of Phys. and Surgs.		(1926)	Virginia
University of Pennsylvania School of Medicine		(1924) (1928)	Illinois, Pennsylvania, (1930) California

College	LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
Harvard University Medical School		(1927)	N. B. M. Ex.
Jefferson Medical College of Philadelphia		(1930)	N. B. M. Ex.

* This applicant has received an M.B. degree and will receive an M.D. degree on completion of an internship.

Tennessee December Examination

Dr. Alfred B. DeLoach, secretary, Tennessee State Board of Medical Examiners, reports the written examination held at Memphis, Dec. 18-19, 1931. The examination covered 8 subjects. An average of 75 per cent was required to pass. Thirty-one candidates were examined, 30 of whom passed and one failed. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
University of Tennessee College of Medicine		(1931)	75.3, 80.4, 80.6, 80.6, 80.9, 81, 81, 81.4, 81.4, 81.5, 81.9, 82.1, 82.3, 82.4, 82.8, 83.3, 83.4, 84, 84.3, 84.3, 84.3, 84.6, 84.8, 85, 85.8, 86.4, 87, 87.5, 87.6, 87.6

College	FAILED	Year Grad.	Per Cent
Meharry Medical Department of Walden University		(1907)	50.6

Book Notices

A Text-Book of Neuro-Anatomy. By Albert Kuntz, Ph.D., M.D., Professor of Micro-Anatomy in St. Louis University School of Medicine. Cloth. Price, $5.50. Pp. 359, with 197 illustrations. Philadelphia: Lea & Febiger, 1931.

The author attempts to correlate the anatomic details with a fundamental structural plan, and the structure of the parts is discussed in the light of the development and physiologic relationships. The plan is an excellent one and in many instances leads to a clearer conception of the subject, when the book is studied as a whole. At times individual parts might better be studied in relation to its form, connections and functions together. The student, however, will find no difficulty in the correlation of subject matter. The descriptions are simple and understandable, though at times rather uninteresting. Usually they are short but comprehensive and require attention in reading. Occasionally one is impressed with a relative lavishness in the treatment of some physiologic conception that may be controversial. Occasionally some errors are found, as "the patient may hear spoken words but does not comprehend their meaning. This is called visual aphasia, word blindness or alexia and is commonly associated with a lesion in the angular gyrus." Original illustrations are outnumbered by borrowed ones. Although the reproduction of myelin stained transverse sections of the brain stem are good, they do not serve as well to designate certain points clearly as if supplemented by diagrammatic or semidiagrammatic drawings, which can be more liberally annotated. Some illustrations, for example, zones of aphasia and apraxia, are insufficiently explained either by a key or in the text. Liberal reference to the literature adds value to the chapters. The volume is a concise and useful textbook for the instruction of students.

Traitement du bec-de-lièvre unilatéral. Par Paul Plessier. Procédé du Docteur Veau. Paper. Price, 30 francs. Pp. 148, with 122 illustrations. Paris: Masson & Cie, 1931.

This is divided into two equal parts, the first considering the lip entirely, and the second the nose. Each part contains chapters on the ideal form, the methods (of others), the results (of others), anatomy and embryology, and the author's technic of operation. The author states that the essential anatomic parts are always present in a cleft lip and that repairs which are not absolutely normal are due to ignorance of the surgeon in recognizing and carrying out a correct operative plan. One learns, however, that the author is talking only of the lip itself, including its prominence, the cupid's bow, and the border of the philtrum on the cleft side. When he comes to consider the nose, he does not seem so sure that perfection will ever be obtained. The ideal form of the lip is well described. The methods of other authors are dwelt on at some length, and apparently a good history of the Mirault procedure and its variation is presented. Since Mirault's description of his original operation is not clear, much liberty has been taken by his imitators in its interpretation, and it has often been shown as taking a flap from the lateral side and swinging it to the medial side of the cleft. Plessier states that the first method of Mirault took a flap from the midline and crossed it over to the outside (Monod and Vaumerts, 1908). This is said to have been a bad influence on the surgery for almost a century,

and illustrations of bad results from this method are shown. A second method of Mirault with an incision straight down the lip is said to be infinitely better, and, after much work, Dr. Veau has developed a technic that differs but little from the second method of Mirault. The lateral column of the philtrum and the cupid's bow are said to be constructed by this procedure. All methods with a flap from the lateral side are sharply criticized, mainly because the column of the philtrum and the cupid's bow are not reconstructed. A chapter is devoted to bad results obtained by other operators, but there is no mention made of the manner of correcting these defects.

Insistence is made on recognizing the basic anatomy and carrying out the correction accordingly. Any operation that takes a flap (from one side or the other) is said to sacrifice form deliberately. "Thus the first objective which is necessary when one undertakes the treatment of a harelip is to make incisions on the skin surface which give a vertical suture line." There is shown a diagram of an operation with a flap from the outside which was published by Dr. Veau in 1925 but was abandoned some years later, presumably in favor of the present plan. Especially contraindicated is the taking of a flap from the median side of the cleft, because of the lack of muscle here. Bad results of this technic are shown, and the point is repeated a great many times in the book. The technic of the operation is well illustrated and described. The floor of the nose is not opened and there is no undermining done in the buccal fornices. The skin and mucosa are undermined to expose muscle, and two wire stay sutures are put in first to engage the muscle but are not tied. The mucosa is closed first on the under side. Then the vermilion border is closed; from here the vermilion closure is completed, and then the skin. The stay suture wires are closed last.

The nose is considered in the last half of the book, and the second paragraph is as follows: "The imperfections due to a deformity of the nose are less objectionable than those due to a bad operation on the cleft lip." The normal contour of the nose is well described, but the author carefully explains that a perfect nose is never obtained. The methods of other authors are described, and the deformities that persist after operation are roughly classified. The chapter on anatomy is excellent and leans more toward description of the deformity than of the normal anatomy. The operation has been worked out, illustrated and described accurately and well. Eight complete clefts with good operative results are illustrated. The noses are not generally good and the deflection of the columella has not been corrected in some. The floor of the nose seems adequate in all cases, but the shadow of the nose itself does not make the floor clear in some of the illustrations. The lip and cupid's bow look perfect in some cases. Some faults may be found in the length of the lips, in unevenness of the vermilion, in the cupid's bow not being in the center, and in the reconstructed philtrum being visibly the scar of suture, but such variations will occur with any type of operation and, on the whole, these results can be adjudged as excellent.

Tumours of the Breast: Their Pathology, Symptoms, Diagnosis and Treatment. By Sir G. Lenthal Cheatle, K.C.B., C.V.O., F.R.C.S., Consulting Surgeon, King's College Hospital, London, and Max Cutler, B.Sc., M.D., Director of Tumour Clinic, Michael Reese Hospital, Chicago. Cloth. Price, $12. Pp. 596, with 486 illustrations. Philadelphia: J. B. Lippincott Company, [n. d.].

This volume, growing out of the authors' wide experience, should prove a valuable work of reference to surgeon and pathologist alike. The illustrations include eighteen colored plates and many reproductions of photomicrographs. The value of whole sections of the breast is stressed throughout the book, and the technic for making whole sections is described in the appendix. The subject matter is concerned not only with tumors of the breast in the strict sense but also with the various types of epithelial hyperplasia, some of which may be precursors of epithelial new growths. A sharp distinction is drawn between the non-cyst-producing type of desquamative epithelial hyperplasia designated as mazoplasia and the cyst-producing or cystiphorous type. The former is usually described as chronic mastitis, but because of its almost universal occurrence in the breasts of women, especially married women, it is regarded by the authors as a physiologic remnant of a previous activity. The cystiphorous type, on the other hand, is distinctly pathologic and may go on to benign epithelial neoplasia (papillomas and sessile growths) and to malignant epithelial neoplasia. The occurrence of cystiphorous desquamative epithelial hyperplasia, benign epithelial neoplasia, and malignant epithelial neoplasis is regarded as a sequence of three related events occurring in three successive decades, cystiphorous desquamative epithelial hyperplasia appearing in the late twenties and early thirties, benign epithelial neoplasia in the late thirties and early forties, and malignant epithelial neoplasia in the late forties and early fifties. In the discussion of "precancerous" lesions it is pointed out that the epithelial cells, although contained within normal limits, have the morphologic appearance of carcinoma cells. The remainder of the breast should be treated as if it contained carcinoma. In the section dealing with carcinoma, the points of origin of mammary carcinoma as revealed by study of whole sections of the breast is dwelt on at length. Transillumination as a diagnostic aid in cases of cystic tumors, galactocele, hematoma, hemorrhagic discharge from the nipple and multiple papillomas is discussed and the technic of the examination is described. The nature of Paget's disease is discussed, and seventeen cases are presented in detail. The authors are unable to decide whether "Paget's cells" are neoplastic or degenerative. The changes in the epidermis and the accompanying neoplastic changes in the depths of the breast are independent processes caused by the same etiologic agent. The breast should be treated as if it contained carcinoma. The radiation treatment of carcinoma of the breast is still under trial. Generally speaking, mammary carcinoma is relatively resistant to x-rays and radium. The extremely malignant anaplastic type of mammary carcinoma is the most radiosensitive.

Lehrbuch der Röntgenstereoskopie. Von Dr. Max Cohn, Dirig. Arzt der Röntgen-Abt. am Städt. Krankenhaus im Friedrichshain, Berlin, und Dr. Walther Barth, Physiker der I. G. Farbenindustrie Aktiengesellschaft (Agfa-Filmfabrik). Paper. Price, 30 marks. Pp. 323, with 195 illustrations. Leipzig: Georg Thieme, 1931.

The authors, a roentgenologist and a physicist, have combined their efforts in producing a textbook of roentgen stereoscopy. The physical foundations and the deficiencies and sources of error are described. There is definite information for obtaining good roentgenograms of every portion of the body. The literature is thoroughly covered in the text, and the less practical references are added in the bibliography at the end of the book. The authors give methods and results which they have used and found to be of value in practice. They are also publishing an atlas of roentgen stereoscopy. In clinical roentgen diagnosis, stereoscopy has been a great aid. This is true of the localization of shadows, foreign bodies and fractured bones. The stereoscopic value of fluoroscopy was emphasized by Holzknecht and his pupils. The first chapter of the book deals with the technic, the physics and the optics of stereoscopy. The second describes the apparatus for taking stereograms. The third discusses the examination of such films. There are chapters on subjective and objective stereoscopy, including measurements. The second part of the book deals with the history, indications (surgical, medical) and special uses of stereoscopy. There are chapters on localization of foreign bodies, extremities, skull, spine and pelvis, thoracic organs, and abdominal organs. The roentgenologist familiar with the German language will find this book the best on the subject. It is hoped that it will lead to a wider use of stereoscopy in the German speaking countries.

Chemical Embryology. By Joseph Needham, M.A., Ph.D. In three volumes. Cloth. Price, $35 per set. Pp. 2021, with plates and illustrations. New York: Macmillan Company; Cambridge: The University Press, 1931.

Perhaps no recent work on the subject of embryology has been undertaken with such a dynamic purpose as this contribution. The consideration of embryology as a branch of morphology and anatomy has left its functional and chemical aspects totally unappreciated. Yet the problems of the morphologist and the biochemist so overlap that a unified treatment such as this author presents is most enlightening. The fact that heterogeneities of form and substance originate from the homogeneity of its building substances makes the physiochemical concept of embryology almost a fundamental consideration. "The history of a man for the nine months preceding his birth," said S. T. Coleridge, "would probably be far more

interesting and contain events of far greater moment than all the three score and ten years that follow it."

While this subject opens a new concept for many, it has had a humble evolutionary history. The author traces the sporadic experiments on the constitution of embryonic tissues in the seventeenth century, a gradual growth of knowledge about the chemical composition of eggs in the eighteenth, a big increase in scientific activity in the nineteenth, during which appear the first observations on the physicochemical changes taking place in the embryo during its development, and then during the present period in which the author undertook to correlate the widely scattered works on this subject. While the facts developed by these investigations are available to the extent that the author has been able to incorporate the results of more than 4,500 original papers, no attempt has been made to review the results. It is the author's aim "to collect together out of all the original papers on the subject the facts which are known about the physicochemical basis of embryonic development and to relate these facts to each other and to the facts derived from the labors of investigators in morphological embryology, and finally to ascertain whether, from what is at present known, any generally valid principles emerge."

The work is divided into three volumes. The first volume prepares the reader for the later presentations of the subject. The section on the theory of chemical embryology is an excellent introduction and is particularly lucid for a discussion of this kind. In the succeeding section an exhaustive historical summary is offered to explain the origin of chemical embryology. The section on embryology in antiquity is fascinating. The historical development of embryology alone justifies this volume. In the remaining part of the book the author takes up the subject of general chemical embryology. In presenting this subject he does not pursue a strictly logical order of exposition, according to the phyla of systematic biology. He discusses the avian egg because it is the most familiar of all eggs and also because it is the most thoroughly investigated biochemically. The discourse on the unfertilized egg as a physicochemical system follows. In succeeding chapters, factors increasing the size and weight of the embryo are discussed.

The second volume considers the biophysical and metabolic aspects of the embryo. The first part is devoted to an exhaustive review of respiration and heat production of the embryo. There is a large collection of valuable data on general metabolic features of the embryo. This phase of the book is of particular interest to those interested in biochemistry.

In the third volume the subject of general metabolism is completed, with a discussion of changes in distribution of ash during avian and mammalian development. Enzymes and hormones in ontogenesis are next considered. The presentation on hormones is short for, as the author states, "endocrinology is not one of the most critical and quantitative branches of biology." There is a short chapter on vitamins in ontogenesis; much of the research was done before careful methods of their assay were available, but the author has done the most with the material at his disposal. The remaining chapters are exceedingly interesting, particularly the sections on resistance and susceptibility to various mechanical, radioactive and toxic agents and serology and immunity in embryonic life. The chapter on biochemistry of the placental barrier will be of especial interest to those interested in the possibility of maternal disorders affecting the fetus.

The book is written in a scholarly manner and shows great originality in organization and presentation. Illustrations and diagrammatic charts are frequently used and emphasize the points brought out in the text. A special feature of organization is the use of three indexes, so that the work may be readily used for quick reference. The bibliography is complete and will be found to be valuable for those interested in greater detail.

The work of the author is unique and the volumes are an excellent addition to our valuable reference works. No other correlation of these subjects exists outside these volumes. The text is of particular interest to geneticists, biologists and embryologists, but because of the author's correlations and generalization it will be found to serve as a valuable reference work for those interested in medical science. The work, however, more than justifies its existence merely as an exercise in pure science.

Tuberkulose als Schicksal: Eine Sammlung pathographischer Skizzen von Calvin bis Klabund, 1509-1928. Von Dr. Erich Ebstein. Mit einer Einführung von Georg B. Gruber. Paper. Price, 6.50 marks. Pp. 184, with 8 illustrations. Stuttgart: Ferdinand Enke, 1932.

This is an interesting addition to the several available collections of biographies of tuberculous geniuses. The only criticism of this one is its brevity. The accounts are, as the author intends, simple word pictures, too often tantalizingly brief, comparable to pencil sketches. To make up for this lack, Ebstein cites references in abundance, which will enable the interested reader to pursue desired biographic investigations further. In all, fifty-two "pathographic sketches" are included. A number of these are of men and women of minor note, but the list also includes John Calvin, Chopin, Eleonora Duse, Ehrlich, Goethe, Gorki, Albrecht von Graefe, Keats, Laënnec, Louis XIII, Molière, Paganini, Rousseau, Schiller, Spinoza and Laurence Sterne. As would be expected, in most cases the account deals only with the tuberculosis, real or suspected, of the person concerned. In a few cases a more general medical history is given. John Calvin suffered from "dyspepsia," severe migraine, malaria, renal calculi and gout, in addition to a disorder of the lungs characterized by pleuritic pain and repeated hemoptysis. The sketches may be divided into three groups: those in which tuberculosis was the malady terminating life, those in which it was only an incident, and those in which tuberculosis may be suspected from some of the symptoms. The first group includes an all too brief account of the illness of Chopin and the melancholy history of Laurence Sterne. In the second is a note on the brief but unmistakable illness of Paul Ehrlich, who discovered tubercle bacilli in his own sputum and traveled a year and a half in favorable climates for the sake of his health. In the third group fall such notable figures as Goethe and Rousseau. In the latter case a history of hemoptysis had led during life to the suspicion of tuberculosis, but a careful necropsy failed to disclose the source when he died years later. It is interesting that in no case was the premortem diagnosis better substantiated by necropsy than in that of Louis XIII, who died in 1643, and whose lungs and intestine were found to be extensively tuberculous. An interesting philosophical preface precedes the text. Every physician will find the book well worth reading for its record of accomplishment in the face of serious disability.

Psychology and Psychiatry in Pediatrics: The Problem. Report of the Subcommittee on Psychology and Psychiatry, Bronson Crothers, M.D., Chairman. White House Conference on Child Health and Protection. Cloth. Price, $1.50. Pp. 146. New York: Century Company, 1932.

This volume represents another of the reports of the subcommittees of the White House Conference; it is concerned largely with defining the position of psychiatry in medicine and of the psychiatrist in medical practice. The book urges the general practitioner to give more attention to this subject and it implores pediatricians to cooperate with the phychiatrist in their studies. The committee feels that it is in the interest of both the child and the physician that psychiatric care of children should be in the hands of medically trained persons, but it is recognized that physicians have neglected their duty. A warning is implied that lay workers will take over the field unless physicians indicate their willingness to assume the obligation. The volume concludes with an analysis of various groups recognized for child guidance study and with especial reference to the Child Guidance Institute and its accomplishments.

Arbeiten aus der dritten Abteilung des Anatomischen Institutes der Kaiserlichen Universität Kyoto. Herausgegeben von Prof. Dr. Seigo Funaoka, Vorstand der Abteilung. Serie A: Untersuchungen über das periphere Nervensystem. Heft 2: Plexus brachialis und die Nerven der oberen Extremität. Von Prof. Dr. Ko Hirasawa, Professor der Anatomie an Nügata medizinischer Akademie. Paper. Pp. 190, with illustrations. Kyoto, 1931.

This contains eight fundamental contributions to the comparative anatomy of the brachial plexus. The observations, obtained from a careful study of 104 Japanese cadavers, were contrasted with those made by observers on European material and on lower mammals, for the purpose of determining whether a Japanese brachial plexus possesses any peculiar features. To some extent, such exist in the abnormal types of trunk formations, variations in their ramifications, frequency of anastomoses among the peripheral nerves of the plexus, and other

features. Each phase, studied in great detail, is abundantly illustrated and supplied with numerous tables and an exhaustive literature. For instance, the median nerve is covered in twenty-eight and the ulnar in thirty-three pages. Dry as such studies may appear, they are nevertheless of great interest to anthropologists, comparative anatomists, neurologists and especially surgeons, because of the anomalies of the brachial plexus they may encounter. The author refers to the work of the Russian anatomist Gruber as done on the brachial plexuses of Germans. This is inaccurate, as Gruber spent fifty-four years (1846-1900) as professor of anatomy in St. Petersburg (now Leningrad) and his work thus has been done on Russian cadavers.

Cancer: What Everyone Should Know About It. By James A. Tobey, Dr.P.H. With introductions by Joseph Colt Bloodgood, M.D., and H. L. Mencken. Cloth. Price, $3. Pp. 313, with illustrations. New York: Alfred A. Knopf, 1932.

This volume comes to the medical profession and to the public, sponsored by eminent writers and physicians. Dr. Tobey has carefully studied the history of cancer and has analyzed our present knowledge. He lists famous persons who have had cancer, describes the types and locations of cancers in the body, and discusses methods of diagnosis and the use of surgery. He presents a list of reliable cancer hospitals and considers the use of roentgen rays and of radium in treatment. Another chapter is devoted to our present knowledge of heredity in cancer and to present types of cancer research. There are also discussions of the nature and course of the disease, of the proper care of the patient, of fraudulent remedies, and of various steps that need to be taken for applying our present knowledge to the control of this disease.

Above everything else, Dr. Tobey's book is a safe book on cancer to put in the hands of the patient with the disease or of any member of his family. Dr. Tobey has carefully surveyed our present knowledge and reduced it to terms understandable by any fairly well educated reader. There has been much need for a book of this type. So poorly is the public informed, notwithstanding all the efforts that have been made by our leading societies for the control of cancer, by the American Medical Association and by other societies, that thousands of persons still yield to the advice of charlatans when confronted with the menace of this most menacing of diseases. If, in their time of stress, Dr. Tobey's book helps them to stability and relieves them of fear, it will have accomplished a most useful purpose.

Röntgenuntersuchungen am Innenrelief des Verdauungskanals: Ein Beitrag zur klinischen Röntgendiagnostik insbesondere von Entzündung, Geschwür und Krebs. Von Professor Dr. Hans Heinrich Berg, Chefarzt der medizinischen Klinik der städtischen Krankenanstalten in Dortmund. Second edition. Paper. Price, 30 marks. Pp. 248, with 247 illustrations. Leipzig: Georg Thieme, 1931.

This book deals with a study of the alimentary tract in health and disease by means of special roentgenologic technic. A watery suspension of barium, much thinner than is ordinarily used, is employed in outlining the folds of the various portions of the alimentary canal, producing a relief pattern based on normal and pathologic anatomy and physiology. The technical considerations also include special attachments to the x-ray apparatus, and unusual care in fluoroscopy and plate taking. There are many beautiful illustrations of normal and pathologic conditions taken with this method. There is also a correlation between the roentgenologic observations and postmortem studies. The book is to be highly recommended to any one interested in disease of the alimentary tract, especially the roentgenologic aspect.

Body Mechanics: Education and Practice. Report of the Subcommittee on Orthopedics and Body Mechanics, Robert B. Osgood, M.D., Chairman. White House Conference on Child Health and Protection. Cloth. Price, $1.50. Pp. 166, with illustrations. New York: Century Company, 1932.

Here is another of the volumes that have come from the White House Conference on Child Health and Protection. It deals wholly with the question of posture, providing a definition, statistics as to the prevalence of bad posture, an analysis of various efforts now in effect to promote good posture, an outline of a course in physical education, and a useful appendix. The volume may be considered a basic work in its statement of present standards in this field.

Die amyostatischen Unruheerscheinungen: Klinisch-kinematographische Analyse ihrer Kennzeichen und Begleiterscheinungen. Von Priv.-Doz. Dr. med. Ernst Herz. Mit einem Geleitwort von Prof. Dr. Karl Kleist. Sonderdruck aus „Journal für Psychologie und Neurologie." Band XLIII, Heft 1 und 2. (Hirnpathologische Arbeiten Nr. 1 und 2). Boards. Price, 40 marks. Pp. 182, with 186 illustrations. Leipzig: Johann Ambrosius Barth, 1931.

This is a reprint in book form. All the illustrations represent phases of motion pictures of various motility disorders due to disease of the extrapyramidal system, and most of the text is devoted to a detailed analysis of these movements. The separate types analyzed are chorea, ballismus, athetosis, torsion spasm, myoclonia, tremor and myorhythmias. The book will be enjoyed by those interested in the intricate physiologic and pathologic problems connected with motility disorders of this kind.

Medicolegal

Damages for Pretending to Be a Physician

(Harris v. Boyd (Okla.), 299 P. 888)

Mrs. Boyd had not been well for several months. She went to Harris' offices and there consulted with one of the defendants, Vera Harris. Mrs. Harris told her of the ability of her associate, James M. Harris, and of his wonderful remedies. Mrs. Boyd was then conducted into the private office of James M. Harris. He told her that she was suffering from weak heart, weak lungs, weak kidneys, and tuberculosis of bone tissue; that she was dying by inches; that unless she took immediate treatment her life would be short. He told her of his medicine, "Oil of Radium," and informed her that unless she decided to take the treatment immediately she might not be able to procure it, as the medicine was rare and could not be procured in America. Relying on these representations, Mrs. Boyd paid the defendant Vera Harris $125 and took the treatment. Later she brought action against both James M. Harris and Vera Harris to recover damages for falsely representing the defendant James M. Harris to be a licensed physician and able to cure any and all human diseases.

The evidence established that the two defendants worked together and divided the profits, that James M. Harris was not a licensed physician, and that no medicine such as "Oil of Radium" was known to the medical profession. Mrs. Boyd testified that the preparation given her by Harris caused a burning sensation in her stomach and considerable pain and suffering. All the representations made by the defendants were shown to be false. It was proved also that after Mrs. Boyd had taken the prescribed medicine for some time she consulted a physician. He discovered that she was suffering from chronic appendicitis, and after an operation she regained her health. The jury returned a verdict in favor of Mrs. Boyd, awarding her $2,000. The defendants then appealed to the Supreme Court of Oklahoma.

It was conceded by the defendants that there was sufficient evidence to establish a case against the defendant James M. Harris, but the Supreme Court found that the evidence was sufficient to connect Vera Harris also with the transaction. James M. Harris, the self-styled doctor, contended that Mrs. Boyd's action against him was an action only for a breach of contract and that therefore she was entitled to recover only the amount paid for the treatment, $125. The Supreme Court, however, quoted from its decision in a case[1] previously before the court in which the court held that in an action for damages, based on fraud in pretending to be a physician and prescribing a sure remedy for a disease, it was correct for the trial court to instruct the jury that if they found from the evidence that the defendant had been guilty of fraud they should find in favor of the plaintiff, and that in determining the amount of damages they should take into consideration any injury to the plaintiff's health and any pain or suffering caused by the fraudulent acts of the defendant, as well as any facts and circumstances tending to show that the plaintiff's disease was aggravated or proper treatment of it delayed or made impracticable. Said the court:

> The wrong complained of is the violation of an express statute in the pretended practice of medicine. The damage claimed is an injury resulting by reason of preventing plaintiff from securing proper medical

1. Harris v. Graham (Okla.), 255 P. 710, J. A. M. A. **89:** 1718 (Nov. 12) 1927.

attention. The question is, then, as to the breach of the statute, was such damage the natural, probable and approximate result of the acts of defendant? The purpose of the statute was to prevent unskilled persons from preying upon an unsuspecting public and to eliminate the detriment that might be caused by malpractice. Hence, a person violating the statute does so with knowledge that one of its natural and probable consequences may be detriment caused both in pain and suffering and in neglect of proper medical attention.

On the basis of this previous decision of the court, it was held that the contention of the defendant in the present case with respect to the amount of damages recoverable could not be sustained.

The defendants contended further that the trial court erred in excluding evidence offered by the defendant James M. Harris, to show that he treated and cured other patients by the use of his remedy. This contention was overruled on the basis of *Ragan* v. *Shannon*, 98 Okla. 289, 225 P. 672, wherein the Supreme Court of Oklahoma announced the following rule:

> In an action for damages for injuries suffered in a treatment for cancer by one not licensed to practice medicine in the state, the results of the treatments by the defendant of other similar cases are not relevant to the issues, and it is error to admit in evidence proof of the results of such treatments.

Finally, the defendants contended that the trial court erred in instructing the jury that if they found that the defendants or either of them practiced fraud on the plaintiff in representing to her that James M. Harris was a licensed physician, or that he was a physician skilled in the diagnosis and treatment of various diseases, or that the medicine prescribed or sold by the defendants to the plaintiff was calculated to or would effect a cure of the plaintiff's ailments, then the defendants, or such one or both of them as the jury might find practiced the fraud, would be liable to the plaintiff in damages. This instruction of the trial court, however, the Supreme Court held to be correct.

The judgment of the trial court in favor of the patient, Mrs. Boyd, was therefore affirmed.

When Medical Expert May Testify as to Standards of Profession.—During the trial of an action for damages for alleged malpractice against a surgeon, the plaintiff called a retired naval medical officer as a witness. He was questioned for the evident purpose of establishing the fact that the defendant had not exercised the proper degree of care and skill in the treatment of the plaintiff's injury. Objections to his testimony were sustained by the trial court, and the court thereafter directed a verdict for the defendant. The plaintiff contended on an appeal to the district court of appeal, first district, division 2, California, that the trial court erred in sustaining the objections to the questions asked the medical witness. In order for the plaintiff to make out her case, said the court of appeal, it was necessary to show that the defendant had not exercised that degree of care and skill ordinarily exercised by persons engaged in the practice of medicine and surgery in the locality and at the time the treatment was given. The medical witness called by the plaintiff was a retired naval medical officer and had never engaged in the general private practice of medicine at any place. He had never been licensed to practice medicine in California and had arrived in San Francisco from Honolulu only a few weeks prior to the trial. The plaintiff did not offer to prove that the witness had any experience or had made any investigation which would qualify him as an expert on the subject of the standards of the medical profession or of the degree of care and skill usually exercised by members of the profession in San Francisco or in that vicinity. The plaintiff then argued that the court should take judicial notice of the fact that the medical standards in San Francisco are as high as those in any place in the world. Our pride, said the court, leads us to hope that these standards are as high as is claimed, but judicial notice may not be taken of the relative height which the medical profession has attained in various parts of the world. The witness having testified that he had never engaged in the practice of medicine anywhere in California, the trial court properly sustained the objections to his testimony on the ground that no proper foundation had been laid, in the absence of some showing of the witness's special qualifications to testify regarding the standards of the medical profession in this state. The judgment of the lower court was accordingly affirmed.—*Soady v. Washburn (Calif.), 299 P. 560.*

Society Proceedings

COMING MEETINGS

American Medical Association, New Orleans, May 9-13. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Alabama, Medical Association of the State of, Mobile, April 19-22. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Secretary.

American Association for the Study of the Feeble-Minded, Philadelphia, May 26-29. Dr. Groves B. Smith, Godfrey, Illinois, Secretary.

American Association for Thoracic Surgery, Ann Arbor, Mich., April 18-20. Dr. Duff S. Allen, 3720 Washington Blvd., St. Louis, Sec'y.

American Association of Genito-Urinary Surgeons, Niagara Falls, Ontario, Canada, May 26-28. Dr. Henry L. Sanford, 1621 Euclid Avenue, Cleveland, Secretary.

American Association of Pathologists and Bacteriologists, Philadelphia, April 28-29. Dr. Howard T. Karsner, 2085 Adelbert Road, Cleveland, Secretary.

American Bronchoscopic Society, Atlantic City, May 21. Dr. Richmond McKinney, 899 Madison Avenue, Memphis, Tennessee, Secretary.

American Climatological and Clinical Association, Atlantic City, May 5-7. Dr. Arthur K. Stone, Auburn Street, Framingham Center, Mass., Secretary.

American Dermatological Association, Havana, Cuba, May 3-5. Dr. William H. Guy, 500 Penn Avenue, Pittsburgh, Secretary.

American Gastro-Enterological Association, Atlantic City, May 2-3. Dr. Charles G. Lucas, 307 West Broadway, Louisville, Secretary.

American Gynecological Society, Quebec, May 30-June 1. Dr. Otto H. Schwarz, 630 South Kingshighway, St. Louis, Secretary.

American Heart Association, New Orleans, May 10. Dr. Irl C. Riggin, 450 Seventh Avenue, New York, Executive Secretary.

American Laryngological Association, Atlantic City, May 19-21. Dr. George M. Coates, 1721 Pine Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Atlantic City, May 23-25. Dr. Robert L. Loughran, 33 East 63d Street, New York, Secretary.

American Otological Society, Atlantic City, May 17-19. Dr. Thomas J. Harris, 104 East 40th Street, New York, Secretary.

American Pediatric Society, Rochester, Minnesota, May 26-28. Dr. Hugh McCulloch, 500 South Kingshighway, St. Louis, Secretary.

American Physiological Society, Philadelphia, April 28-30. Dr. Arno B. Luckhardt, 5216 Greenwood Avenue, Chicago, Secretary.

American Proctologic Society, Memphis, May 6-7. Dr. Curtice Rosser, 710 Medical Arts Building, Dallas, Texas, Secretary.

American Psychiatric Association, Philadelphia, May 30-June 3. Dr. Clarence O. Cheney, 722 West 168th Street, New York, Secretary.

American Society for Clinical Investigation, Atlantic City, May 2. Dr. Cyrus C. Sturgis, Simpson Memorial Institute, Ann Arbor, Mich., Secretary.

American Society for Experimental Pathology, Philadelphia, April 28-30. Dr. C. Phillip Miller, Jr., University of Chicago, Chicago, Secretary.

American Society for Pharmacology and Experimental Therapeutics, Philadelphia, April 27-30. Dr. V. E. Henderson, University of Toronto, Toronto, Secretary.

American Society of Biological Chemistry, Philadelphia, April 28-30. Dr. H. B. Lewis, University of Michigan Medical School, Ann Arbor, Secretary.

American Society of Clinical Pathologists, New Orleans, May 6-9. Dr. A. S. Giordano, 531 North Main Street, South Bend, Ind., Secretary.

American Surgical Association, New Haven, Conn., May 16-18. Dr. Vernon C. David, 59 East Madison Street, Chicago, Secretary.

American Therapeutic Society, Baltimore, May 16-17. Dr. Grafton Tyler Brown, 1801 I Street N.W., Washington, D. C., Secretary.

American Urological Association, Toronto, May 30-June 2. Dr. Gilbert J. Thomas, 1009 Nicollet Avenue, Minneapolis, Secretary.

Arizona State Medical Association, Globe, April 21-23. Dr. D. F. Harbridge, 822 Professional Building, Phoenix, Secretary.

Association for the Study of Internal Secretions, New Orleans, May 9-10. Dr. F. M. Pottenger, 1930 Wilshire Boulevard, Los Angeles, Secretary.

Association of American Physicians, Atlantic City, May 3-4. Dr. James H. Means, Massachusetts General Hospital, Boston, Secretary.

California Medical Association, Pasadena, May 2-5. Dr. Emma W. Pope, 450 Sutter Street, San Francisco, Secretary.

Connecticut State Medical Society, New Haven, May 25-26. Dr. Charles W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

District of Columbia, Medical Society of the, Washington, D. C., May 4-5. Dr. C. B. Conklin, 1718 M Street, N. W., Washington, D. C., Secretary.

Florida Medical Association, Sarasota, May 3-4. Dr. Shaler Richardson, 111 West Adams Street, Jacksonville, Secretary.

Georgia, Medical Association of, Savannah, May 17-20. Dr. Allen H. Bunce, 139 Forrest Avenue N.E., Atlanta, Secretary.

Illinois State Medical Society, Springfield, May 17-19. Dr. Harold M. Camp, 203 Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Sioux City, May 4-6. Dr. Robert L. Parker, 3510 Sixth Avenue, Des Moines, Secretary.

Kansas Medical Society, Kansas City, May 3-5. Dr. J. F. Hassig, 804 Huron Building, Kansas City, Secretary.

Louisiana State Medical Society, New Orleans, May 9-10. Dr. P. T. Talbot, 1430 Tulane Avenue, New Orleans, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 26-27. Dr. Walter Dent Wise, 1211 Cathedral Street, Baltimore, Secretary.

Medical Women's National Association, New Orleans, May 8-9. Dr. Sylvia Allan, Winthrop College, Rock Hill, S. C., Secretary.

Minnesota State Medical Association, St. Paul, May 23-25. Dr. E. A. Meyerding, 11 West Summit Avenue, St. Paul, Secretary.

Mississippi State Medical Association, Jackson, April 12-14. Dr. T. M. Dye, Clarksdale, Secretary.

Missouri State Medical Association, Jefferson City, May 23-26. Dr. E. J. Goodwin, 634 North Grand Boulevard, St. Louis, Secretary.

Nebraska State Medical Association, Lincoln, May 24-26. Dr. R. B. Adams, Center McKinley Building, Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 17-18. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Mexico Medical Society, Santa Fe, May 19-21. Dr. L. B. Cohenour, 219 West Central Avenue, Albuquerque, Secretary.

New York, Medical Society of the State of, Buffalo, May 23-25. Dr. Daniel S. Dougherty, 2 East 103d Street, New York, Secretary.
North Carolina, Medical Society of the State of, Winston-Salem, April 18-20. Dr. L. B. McBrayer, Southern Pines, Secretary.
Northern Tri-State Medical Association, Toledo, April 12. Dr. Charles F. Kuhn, 90 East Warren Avenue, Detroit, Secretary.
Ohio State Medical Association, Dayton, May 3-4. Mr. Don K. Martin, 131 East State Street, Columbus, Executive Secretary.
Oklahoma State Medical Association, Tulsa, May 24-26. Dr. Claude A. Thompson, Manhattan Building, Muskogee, Secretary.
Rhode Island Medical Society, Providence, June 2. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.
Society for the Study of Asthma and Allied Conditions, Atlantic City, April 30. Dr. W. C. Spain, 116 East 53d Street, New York, Secretary.
South Carolina Medical Association, Columbia, April 19-21. Dr. E. A. Hines, Seneca, Secretary.
Tennessee State Medical Association, Memphis, April 12-14. Dr. H. H. Shoulders, 706 Church Street, Nashville, Secretary.
Texas, State Medical Association of, Waco, May 5-7. Dr. Holman Taylor, Medical Arts Building, Fort Worth, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Issues of periodicals are kept on file for a period of five years only. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending, but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Journal of Ophthalmology, St. Louis

15: 95-188 (Feb.) 1932

*Dystrophy of Corneal Epithelium in Vernal Catarrh. M. N. Beigelman, Los Angeles.—p. 95.
*Barraquer Operation for Removal of Senile Cataract. W. J. Harrison, Philadelphia.—p. 104.
Oculoglandular Tularemia. Georgiana Dvorak-Theobald, Chicago.—p. 112.
*Procedure for Extraction of Congenital, Soft and Membranous Cataracts. O. Barkan, San Francisco.—p. 117.
Concerning a Membrane, Between the Vitreous and Anterior Chamber, Seen After Removal of Crystalline Lens and Its Capsule. A. Cowan, Philadelphia.—p. 125.
*Measles Encephalitis: Clinical Report of Some Eye Observations. P. Heath, Detroit.—p. 130.
*Treatment of Painful Absolute Glaucoma and Other Eye Diseases with Retrobulbar Injections of Alcohol. J. Fejer, Budapest, Hungary. —p. 135.

Dystrophy of Corneal Epithelium in Vernal Catarrh.—Beigelman describes a dystrophy of the corneal epithelium observed in two cases of vernal catarrh. In one of these cases a histopathologic examination was performed. An attempt is made to establish the place of this complication on one side among the degenerative lesions of the corneal epithelium and on the other side among the corneal dystrophies occurring in the course of vernal catarrh.

Barraquer Operation for Removal of Senile Cataract.—Harrison, after spending some nine months under the personal instruction of Professor Barraquer in Barcelona, Spain, gives a detailed account of the routine employed in preparation and operation. The steps in the operation are carefully described and the reasons for each are discussed. A statistical analysis of results obtained in 117 cases is given.

Procedure for Extraction of Cataracts.—Barkan presents a summary of the history of cataract extraction and discission and describes the present-day methods of operating on membranous and soft cataracts. The disadvantages and complications of these methods are pointed out. The author recommends production of hypotony and maximal dilatation of the pupil by the use of 1:1,000 solution of epinephrine injected subconjunctivally, and an oblique valvelike incision 2 mm. within the cornea through which lens and capsule may be removed. Five cases are reported in detail in which excellent results were obtained by this procedure.

Measles Encephalitis.—Heath reports the case of a boy, aged 6 years, who in convalescing from a moderate attack of measles had sudden complete loss of sight on the eleventh day without other signs at the time. Clinically he soon showed typical encephalitis. The child had alternate intervals of lethargy and of excitation. The eye signs varied so far as the size of his pupils and muscle balance were concerned, but for a period of over a week there was an ophthalmoscopic picture similar to bilateral central retinal arterial embolism. He recovered his vision almost completely with minor residual changes so far as ophthalmoscopic observations were concerned, but he has continued to show distinct personality changes and behaviorism disturbances with sadistic tendencies.

Treatment of Painful Absolute Glaucoma.—Fejer injects 1 cc. of 80 per cent alcohol near the posterior pole of the eyeball for the relief of the pain of absolute glaucoma. The eyeball becomes anesthetic and immovable. For a few days there is protrusion of the globe with chemosis and stain. Five cases are reported in which the procedure was employed. In one the pain recurred owing to a bony shell within the eyeball necessitating enucleation. In another the presence of an intra-ocular melanosarcoma brought about return of pain, necessitating removal of the globe.

American Journal of Public Health, New York

22: 127-236 (Feb.) 1932

Dental Policies in Public Health Program. A. Walker, New York. —p. 127.
Practicability of Epidemiologic Methods in Control of Syphilis. W. L. Munson, Granville, N. Y.—p. 134.
Syphilis from Epidemiologist's Point of View. T. Parran, Jr., Albany, N. Y.—p. 141.
Syphilis in Rural Negro Population in Tennessee. J. A. Crabtree and E. L. Bishop, Nashville, Tenn.—p. 157.
Control of Syphilis from Health Officer's Viewpoint. N. A. Nelson, Boston.—p. 165.
When the Doctor Prescribes Books. Catherine Poyas Walker, Atlanta, Ga.—p. 174.
Further Note on Disappearance of Bacteria Applied to Skin. J. F. Norton and Marguerite F. Novy, Detroit.—p. 193.
Connecticut Official Milk Sediment Standards. F. L. Mickle, Hartford, Conn.—p. 196.

Colorado Medicine, Denver

29: 51-100 (Feb.) 1932

Control of Communicable Disease. J. W. Amesse, Denver.—p. 57.
Trichomonas Vaginitis. J. R. Evans, Denver.—p. 59.
Development of Local Health Service in County as Unit. F. P. Foard, Santa Barbara, Calif.—p. 64.
Medical Economics. A. H. Erb, La Junta.—p. 69.
Ideals of Medicine. A. L. Briskman, Colorado Springs.—p. 72.

Endocrinology, Los Angeles

16: 1-108 (Jan.-Feb.) 1932

*Growth Hormone: Report of Case of Juvenile Hypopituitarism Treated with Evans' Growth Hormone. W. Engelbach, New York.—p. 1.
*Nodular Hyperplasia of Adrenal Medulla in Hypertension. M. A. Goldzieher, Brooklyn.—p. 20.
Hyperinsulinism and Dysinsulinism (Insulogenic Hypoglycemia): Chronological Review of Cases Reported in United States and Canada. S. Harris, Birmingham, Ala.—p. 29.
Cortin in Addison's Disease. F. A. Hartman and A. H. Aaron, Buffalo. —p. 43.
Ovarian Therapy. Jean Paul Pratt, Detroit.—p. 45.
*Climate as Potential Factor in Etiology of Exophthalmic Goiter and Other Metabolic Diseases. C. A. Mills, Cincinnati.—p. 52.
*Site of Action of Iodine in Goiter. J. A. Buchanan, Brooklyn.—p. 65.
Pathologic Report of a Case of Addison's Disease Treated with Cortin. K. Terplan and S. Sanes, Buffalo.—p. 69.

Growth Hormone.—Engelbach reports two cases of hypopituitarism, showing marked deficiency of both the growth and the sex hormones. One subject of infantile hypopituitarism was 4 years of age, and the other was a juvenile aged 9 years and 6 months. This subject was given replacement treatment of Evans' purified growth hormone. Although Evans discovered the growth hormone in 1922, this is the first human being to whom it has been given. This has been due to the difficulties in its purification and separation from the pituitary sex hormone. The author discusses the incidence, symptomatology and diagnosis, as well as the treatment of insufficiency of the anterior lobe of the hypophysis during the preadolescent age. He contends that hypopituitarism during infancy and juvenility is a very common endocrine disorder. Emphasis is placed on the ease of diagnosis of deficiency of the growth hormone, which is made by comparison of actual measurements of infants and juveniles with standard measurements for age and sex, such standard measurements being included in the article. The subject who was given replacement of Evans' growth hormone was a girl, aged 9 years and 6 months, who had had an arrested physical development for a number of years previous to the institution of such

treatment. This hormone, which Professor Evans had tested out carefully by prolonged animal experimentation, was given first in minute doses and gradually increased until 10 cc. was given intramuscularly. The reaction to this treatment during the nine months and seventeen days that it was administered showed that there was an increase of 2 7/10 inches (7 cm.) in height; 7½ pounds (3.4 Kg.) in weight; 6/10 inch (1.5 cm.) in circumference of the head; 1 7/10 inches (4.5 cm.) in the chest, and 1 3/10 inches (3.5 cm.) in the abdomen. The reaction to treatment during this age is very favorable.

Nodular Hyperplasia of Suprarenal Medulla in Hypertension.—Goldzieher calls attention to the occurrence of nodular hyperplasia of the suprarenal medulla in cases of hypertension and arteriosclerosis and describes four new cases. Emphasis is laid on the significance of suprarenal hyperfunction in the pathogenesis of hypertension.

Climate and the Etiology of Exophthalmic Goiter.—Mills presents maps of North America showing the relative distribution of deaths from exophthalmic goiter, diabetes and pernicious anemia in relation to the total number of deaths. The climate of the continent is also considered with especial reference to storm areas and frequencies and to the day-to-day variability of the temperature. From such maps it is observed that these three diseases are most severe in two areas, one centering around the Great Lakes region and the other covering the Pacific Northwest from San Francisco northward. The death rates in these regions are much higher for these diseases than one sees either in the Southern states or in the far north. Climate maps show the Great Lakes area to possess the highest storm frequency to be seen anywhere in the northern hemisphere, and to have great temperature variability as compared to the south. The Pacific coast, from San Francisco northward, shows a low variability of temperature and few storms, but remains at all times of the year within the limits of the optimum for human activity. This observation of greatest metabolic breakdown in the two areas where the climatic drive is exerting the greatest stimulation on humanity leads to the assumption of a causal relationship. Although infections may frequently act as the immediately exciting force to initiate these diseases, it would seem that climatic stimulation is the basic factor which determines the susceptibility of the population. Excessive stimulation brings a small number of the people too near the limits of their metabolic capacity, so that they are more sensitive to the results of infection.

Site of Action of Iodine in Goiter.—Buchanan states that colloid goiter is due to underfunction of thyroid cells. Exophthalmic goiter and functioning adenoma introduce an excess of thyroid secretion into the blood stream. If iodine acts directly on these cells, it would have to stimulate the former and depress the latter two. A case with necropsy is presented to show that iodine when given in large doses over a considerable period has no action on normal thyroid cells. The conclusion is warranted that iodine in goiter does not act on the thyroid cells alone but on the cause, which is found in the upper gastrointestinal tract. Iodine is shown to cause a reduction in the size of a spleen enlarged by unknown etiology.

Illinois Medical Journal, Chicago

61: 89-180 (Feb.) 1932

The Medical School: Objectives. I. S. Cutter, Chicago.—p. 117.
History of Obstetrics. H. Buxbaum, Chicago.—p. 118.
Value of Climate in Treatment of Tuberculosis. C. H. Gellenthien, Valmora, N. M.—p. 125.
Orbital Cellulitis and Abscess Secondary to Sinusitis. H. C. Ballenger, Chicago.—p. 128.
Electrosurgical Extirpation of Tonsils in the Tuberculous: Preliminary Report. A. R. Hollender, Chicago.—p. 131.
Roentgen-Ray Therapy in Skin Diseases. A. W. Erskine, Cedar Rapids, Iowa.—p. 134.
Embryology of Larynx. O. M. Steffenson, Chicago.—p. 138.
Acute Poliomyelitis. F. G. Norbury, Jacksonville.—p. 142.
Tubal Insufflation in Sterility by Use of Air Pressometer. S. D. Soter, Chicago.—p. 146.
Some Clinical and Roentgenologic Aspects of Pulmonary Tuberculosis. J. J. Mendelsohn, Chicago.—p. 148.
Present Status of Traumatic Surgery. F. A. Besley, Waukegan.—p. 153.
Roentgenologic Aspects of Carcinoma of Stomach. J. T. Case, Chicago.—p. 156.
Immunization by Means of Bacterial Antigens. J. F. Biehn, Chicago.—p. 159.
Injection Treatment of Varicose Veins. Aimé Paul Heineck, Chicago.—p. 165.
Cancer and Public Health. R. T. Pettit, Ottawa.—p. 171.
Persistent Vomiting in Nongravid Nullipara Cured by Dilation and Cauterization of Cervix Uteri. H. O. Veach, Kewanee.—p. 173.
Rhinophyma. M. A. Glatt, Chicago.—p. 174.

Iowa State Medical Society Journal, Des Moines

22: 59-106 (Feb.) 1932

Surgical Clinics. D. C. Balfour, Rochester, Minn.—p. 59.
Spinal Cord Injuries. W. D. Abbott, Des Moines.—p. 64.
Silent Sickness of Middle Age. C. M. Porter, Woodward.—p. 67.
Roentgen-Ray Therapy and Its Use in Carcinoma of Cervix. E. L. Rypins, Iowa City.—p. 70.
Preoperative Preparation and Its Relation to Postoperative Complications. C. Mayo 2d, Rochester, Minn.—p. 73.
Treatment of Pneumonia. C. C. Hall, Maynard.—p. 76.
Insulin in Treatment of Infections. R. E. Gunn, Boone.—p. 81.
Hyperthyroidism and Psychoses. W. R. Miller, Iowa City.—p. 83.

Journal of Infectious Diseases, Chicago

50: 1-88 (Jan.) 1932

*Biologic Action of Ultra-High-Frequency Currents. W. T. Szymanowski and R. A. Hicks, Pittsburgh.—p. 1.
*Poliomyelitis: I. Production of Antiviral Serums by Inoculation of Goats and Sheep with Virus of Poliomyelitis. Beatrice F. Howitt, San Francisco.—p. 26.
*Poliomyelitis: II. Comparison of Intramuscular Injection with Combined Intraspinal and Intravenous Injection of Convalescent Serum in Treatment for Experimental Poliomyelitis in Monkeys. Beatrice F. Howitt, San Francisco.—p. 47.
*Relation Between Bacteria and Temperature in Subacute Bacterial Endocarditis H. Weiss and R. Ottenberg, New York.—p. 61.
*Occurrence of Diphtheroids in Blood Cultures. L. Thompson, Rochester, Minn.—p. 69.
*Cultural and Biochemical Characteristics of Monilia Isolated from Human Sources. W. D. Stovall and Anna A. Bubolz, Madison, Wis.—p. 73.

Biologic Action of Ultra-High-Frequency Currents.—According to Szymanowski and Hicks, ultra-high-frequency radiation is capable of producing definite attenuation of the three major bacterial toxins, diphtheria, tetanus and botulinus, in raw broth filtrates. This effect is obtained without the development in the toxin of temperatures that would by themselves affect the potency of the toxin. A tentative theory is advanced pertaining to the mechanism of this action.

Production of Antiviral Serums Through Immunization with Poliomyelitic Virus.—Howitt states that the prolonged immunization of two goats and a sheep with poliomyelitic virus over a period of years resulted in the development of antiviral substances that were capable of protecting monkeys against infection, both when tested by the different methods of in vitro neutralization and when used therapeutically or as a prophylactic, in a certain number of instances.

Treatment of Experimental Poliomyelitis.—Howitt describes experiments in which she observed that in monkeys in the preparalytic stage the percentage of recovery from experimental poliomyelitis was greater when serum from convalescent monkeys was given intramuscularly than when it was administered by the combined intrathecal and intravenous method. Paralysis, however, was rarely prevented, and with one exception recovery was accompanied by varying degrees of atrophy of the affected muscles. One hundred per cent mortality occurred if treatment was given after the onset of paralysis, while repeated injections of serum seemed no more effective than a single dose.

Bacteria and Temperature in Subacute Bacterial Endocarditis.—The results of a study made by Weiss and Ottenberg of the relationship of the temperature to the bacteremia in four cases of subacute bacterial endocarditis indicate that a correlation between these two phenomena probably exists. The bacteremia is apparently maintained (1) by a constant, practically uniform feeding of bacteria into the blood stream from the endocardial vegetations and (2) by the sudden liberation of a large number of organisms, the so-called bacterial shower. The constancy of the level of the bacteremia is a rather remarkable feature, each case apparently establishing for itself a balance between bacterial invasion and immunologic response, which it maintains throughout the course of the disease. The clinical severity of the disease bears no relationship to the degree of the bacteremia; cases with high counts may be prolonged and mild, while others with low counts may terminate fatally after a short illness. The results indicate that if diagnostic blood

cultures, usually made at the time of hyperpyrexia, are made just before the expected rise in temperature, more positive results and higher bacterial counts will be obtained.

Diptheroids in Blood Cultures.—Thompson reports that, of 1,079 blood cultures, 33 (3 per cent) gave a growth of diphtheroids. Study of seventeen strains disclosed great variation among the organisms as to morphologic and cultural characteristics. It was not possible to correlate the finding of diphtheroids in the blood culture with the clinical diagnosis. In none of the cultures studied was any marked change from the morphology of diphtheroids noted. An instance is cited in which a pleomorphic streptococcus was obtained from the blood in a case of subacute bacterial endocarditis. Diphtheroids appear to have the same significance in blood cultures as the saprophytic cocci.

Characteristics of Monilia Isolated from Human Sources.—Stovall and Bubolz studied 150 cultures of monilias isolated from cases of bronchitis, vaginitis and thrush and ten secured from the American Type Culture Collection. On the basis of morphology of colonies, fermentation of carbohydrates and behavior toward milk they were able to classify all cultures into three species. Two of these species are represented by type cultures that have often been described, Monilia albicans, the authors' type II, and Monilia candida, their type III. One species, the authors' type I, was not found to be represented among the type cultures studied. Type I is rarely found associated with disease of the human body. The other two types are associated with thrush and are frequently found associated with bronchitis and vaginitis. The authors have encountered Monilia albicans six times to once that they have encountered Monilia candida. From their experience with the cultures and from a knowledge of the literature, they believe that Monilia albicans has been more frequently encountered by other investigators, but often the cultures have been described under another name and as a different species. This investigation indicates that many of the cultures of monilias that have been isolated from disease occurring in the tropics and described under the names of a multiplicity of species are either Monilia albicans or Monilia candida. The cultural and biochemical characteristics of these organisms were found to be remarkably constant, and the reported variability is apparently due to a lack of uniformity in technic.

Journal of Nervous and Mental Disease, New York

75: 113-215 (Feb.) 1932

Individual Factor in Manic Reactions. P. R. Vessie, Greenwich, Conn. —p. 113.
*Histopathologic Characteristics of Peripheral Nerves in Amputated Extremities of Patients with Arteriosclerosis. J. B. Priestley, Rochester, Minn.—p. 137.
*Permeability of Hemato-Encephalic Barrier in Epilepsy as Determined by Walter's Bromide Test. S. Katzenelbogen, Baltimore.—p. 144.
*Tibial Flexion of Big Toe: New Pyramidal Reflex, Its Semeiologic and Balneologic Significance. G. J. Lomtadsé, Kisslovodsk, Caucasus. —p. 149.
Family Periodic Paralysis: Report of Case. D. B. Davis and S. M. Wells, Grand Rapids, Mich.—p. 160.

Peripheral Nerves in Amputated Extremities.—Priestley calls attention to the fact that in the peripheral nerves of extremities amputated for arteriosclerotic gangrene there are evidences of definite wallerian degeneration and fibrosis. These changes appear more pronounced in the distal than in the proximal portions of a given nerve, and the degree of change is directly proportional to the degree of arteriosclerotic alteration of the vessels. This suggests a peripheral origin for the degeneration, which probably depends on ischemia for its production. Ischemia of nerve fibers from numerous causes may result in pain of varying intensity, from mild neuritis to the excruciating pain typical of sudden vascular occlusion, and the ischemia may represent the etiologic factor in many cases of neuritis. To support this view one has only to observe the clinical and symptomatic improvement resulting from treatment directed toward increasing the efficiency of the local circulation in these conditions.

Hemato-Encephalic Barrier in Epilepsy.—Katzenelbogen states that, as tested by Walter's method, the barrier permeability in epilepsy is likely to be found either normal or more or less increased in most cases. There are relatively few chances to find a decreased barrier permeability to bromide in epilepsy. The tendency toward a high permeability to bromide in epilepsy and the particular efficacy of the bromide treatment in this disease concur in contributing, apparently, to the concept that substances introduced into the general circulation affect the cerebrospinal system through the fluid. The susceptibility of the barrier to a high permeability in epilepsy is also significant when confronted with the frequent observation of an increased permeability in certain organic diseases of the cerebrospinal system and in conditions associated with meningeal congestion.

Tibial Flexion of Great Toe.—During the last three years Lomtadsé has had the opportunity to verify, by observing a great number of patients, a new reflex which he had sometimes noticed before, and which is characteristic for cases of organic lesions of the central nervous system. To produce this reflex, one places the patient in a horizontal position on a sofa and presses on the outward side of the tibia, sliding with the thumb from the point of the tuberosity down along the leg until the middle third of the tibia is reached. Then the reflex, which consists in a flexion of the great toe, will follow. In some cases, when the irritability is very marked the reflex may be produced simply by a slight pressing of the external side of the tibia at a point near to the tuberosity or by tapping it with the hammer. The flexion of the great toe is often accompanied in this reflex by a flexion of all the other toes, or by their spreading. This reflex can be induced sometimes only in one foot, sometimes in both feet. It always points to the presence of some disorder in the central nervous system. In experimenting with this reflex the author has met only rare exceptions, which sometimes happened in cases of goiter in very sensitive patients, it being possible that such exceptions take place because the patients felt a pain and half consciously made a movement of defense. Such exceptional cases can be easily distinguished, and the reflex disappears as soon as the foot is passively bent down. The best method for the exclusion of such defense reflexes is to distract the attention of the patient from his foot by asking him to make the Jendrassik maneuver or make him press with his wrist a dynamometer. The tibial reflex of the great toe as described always points not only to the fact of some lesion in the pyramidal tracts but also to the height of this lesion.

Jour. of Pharmacology & Exper. Therap., Baltimore

44: 1-121 (Jan.) 1932

*Distribution of Chlorides and Iodides in Skin and Muscles of Rabbit After Administration of Potassium Iodide. H. A. Shoemaker and F. P. Underhill, New Haven, Conn.—p. 23.
Can Iodides Replace Chlorides in Chloride Deficiency? H. A. Shoemaker and F. P. Underhill, New Haven, Conn.—p. 43.
*Study of Pituitary Hormones: IV. Relation Between Hypophysis Hormones and Vitamin C. R. T. Agnoli. Genoa, Italy.—p. 47.
Studies on Hypophysis Hormones: V. Influence of Pituitary on Germination of Seeds of Lupinus Albus L. R. T. Agnoli, Genoa, Italy. —p. 55.
Sulfonium Compounds and Autonomic Nervous System. R. Hunt and R. R. Renshaw, New York.—p. 63.
*Pharmacology of Inflammation: II. Inhibiting Effect of Some Benzoates. A. I. Bernheim, L. Hirschhorn and M. G. Mulinos, New York.—p. 81.
*Action of Physostigmine, with Especial Reference to Circulatory System and Intestine. R. S. A. Heathcote, Cairo, Egypt.—p. 95.
General Properties, Actions and Toxicity of Propylene Glycol. M. A. Seidenfeld and P. J. Hanzlik, San Francisco.—p. 109.

Distribution of Chlorides and Iodides in Skin and Muscles.—Shoemaker and Underhill describe experiments in which they found that iodides when given orally to rabbits, either in single or in repeated large doses, do not displace the chloride of the skin and muscle. The highest concentration of iodide in tissues after a single dose of 0.5 Gm. of potassium iodide per kilogram of body weight is present three hours subsequent to administration. The concentration in the tissues after a single dose decreases slowly up to the twelve-hour interval and then remains at a level for a second twelve-hour period, or longer. The rate of excretion of iodides, as indicated by tissue content, increases at first and then decreases when repeated doses are given. The concentration of iodide in the different tissues studied is proportional to the chloride content. The ratio chloride: iodide is a constant in the tissues of the same animal but may vary from individual to individual. There is no evidence of greater accumulation of iodide when administered as repeated doses than when given as a single dose.

Relation Between Hypophysis Hormones and Vitamin C.—In guinea-pigs in a condition of serious food dystrophy owing to lack in diet of vitamin C, Agnoli tested various preparations containing hormones of the anterior hypothesis lobe. None of these hormones succeeded in opposing in any lasting manner the serious dystrophy and in prolonging the life of the animal. As a result of these experiments it seems that any identity or substitution of function between hormones of the anterior lobe of the hypophysis and vitamin C is to be excluded.

Pharmacology of Inflammation.—Bernheim and his associates report that the ammonium salts of benzoic, ortho-iodo benzoic, ortho-iodoso benzoic, para-iodoso benzoic and ortho-iodoxy benzoic acids, given intravenously or intraperitoneally, inhibit the edema of the conjunctival sac of rabbits produced by 15 per cent mustard oil. The inhibiting action of the ortho-iodoxy benzoate is not due to a fall in blood pressure. The authors present a table which shows the relationship between the minimal effective antiedemic dose and the minimal lethal dose to be essentially a constant (from 50 to 66 per cent). The doses of the individual drugs vary from 75 to 325 mg. per kilogram. The contention of various authors that local anesthesia by drugs does not inhibit mustard oil edema was confirmed.

Action of Physostigmine.—Heathcote reports experiments in which he demonstrated that physostigmine stimulates the nerve ends of the cardiac vagus in the dog and of the intestinal branches of the vagus in the rabbit. No such stimulation could be found of the nerve ends of the cardiac vagus in the rabbit, toad or frog. Larger amounts paralyze the ganglions of the parasympathetic, in both the heart and the intestine. Direct stimulant action on unstriated muscle of the blood vessels has been demonstrated only in the case of the dog. In weak solutions it depresses the heart muscle of the toad and the frog. With stronger solutions, both the cardiac and the intestinal muscle of the rabbit are depressed. This is a direct action on muscle. Evidence was not obtained of any action on the sympathetic terminals.

Kansas Medical Society Journal, Topeka

33: 39-74 (Feb.) 1932

Treatment of Acute Generalizing Peritonitis. L. F. Barney, Kansas City.—p. 39.
Diverticula of Intestines. A. O'Donnell, Ellsworth.—p. 45.
Gastroduodenal Ulcer: Physiologic Aspects of Etiology, Symptoms and Treatment. A. C. Ivy, Chicago.—p. 52.
Sac of Inguinal and Crural Hernia from Historical and Operative Point of View. D. W. Basham, Wichita.—p. 55.

Medical Annals of District of Columbia, Washington

1: 1-22 (Jan.) 1932

Subphrenic Abscess: Report of Three Cases Illustrating Diagnostic Problems. J. F. Elward, Washington.—p. 1.
Diverticulitis of Sigmoid. F. R. Sanderson, Washington.—p. 5.
Functions of Liver. J. Markowitz, Washington.—p. 9.

Michigan State M. Soc. Journal, Grand Rapids

31: 87-172 (Feb.) 1932

*Carcinoma of Stomach: Observations on Surgical Treatment. H. K. Ransom and F. A. Coller, Ann Arbor.—p. 87.
Needs of Mentally Handicapped Children in Michigan. R. H. Haskell, Detroit.—p. 93.
Supplementary Report of Cancer Committee. C. E. Dutchess, Detroit.—p. 98.
Tuberculosis in Children and Adolescents. H. D. Chadwick, Detroit.—p. 109.
New Method of Studying Edema. F. H. Lashmet, Ann Arbor.—p. 114.
Allergic Diseases in Children. S. J. Levin, Detroit.—p. 116.
Actinomycosis of Liver: Case Report. G. G. Rieckhoff, Detroit.—p. 120.
Hyperparathyroidism. N. Gates, Detroit.—p. 121.
Austin Flint. F. J. Heringhaus, Ann Arbor.—p. 126.
Michigan's Department of Health. C. C. Slemons, Lansing.—p. 133.

Carcinoma of Stomach.—In the hope of bettering their results in the treatment of this disease, Ransom and Coller undertook a study of the cases of carcinoma of the stomach that have come under their observation during the five year period from 1926 to 1930. During this time their records show that 469 patients were diagnosed as having this disease but because of insufficient data or incomplete study many were excluded, leaving 415 that were proved by necropsy, operation or sound clinical evidence to have this lesion. The clinical evidence accepted as positive was a characteristic appearance on roentgen examination, a tumor in the epigastrium with the associated common clinical signs of hematemesis, blood in the stools and achlorhydria. Over 50 per cent of the cases of carcinoma of the stomach were inoperable when first seen. An additional 11 per cent were found inoperable by surgical exploration. While the early diagnosis of gastric cancer is difficult, thorough roentgen examination at the present time offers the greatest possibility of accuracy. Gastric resection as a palliative operation for cancer of the stomach is regarded as superior to gastro-enterostomy, for (1) the postoperative period of survival is longer (13.7 months versus 8.6 months) (2) at the present time the mortality is no higher and the postoperative convalescence smoother, and (3) in the authors' follow-up series the only patients still living were the ones on whom resections were done. Thirteen of the fifty-six resection patients are still living, two of them approaching the five-year period.

Military Surgeon, Washington, D. C.

70: 109-202 (Feb.) 1932

Casualties and Medical Statistics of British Forces During Great War. A. G. Love.—p. 109.
Hexylresorcinol as Venereal Prophylactic. M. Ashford and L. M. Hathaway.—p. 128.
Leprosy in Philippine Islands. G. F. Lull.—p. 138.
Appendix Incarcerated in Inguinal Canal: Report of Two Cases. L. E. Likes.—p. 145.
Lumbar Ganglionectomy for Buerger's Disease (Thrombo-Angiitis Obliterans): Two Interesting Case Reports. H. W. Jones.—p. 149.
Ruptured Gastric Ulcer and Cholecystitis. B. L. Wilson.—p. 150.
Days Gone By: James Craik, Physician General. R. U. Patterson.—p. 152.
Pirogoff. G. M. Blech.—p. 156.

Nebraska State Medical Journal, Lincoln

17: 45-92 (Feb.) 1932

Progress of Surgery: Review of Literature of Last Half of 1931. H. H. Davis, Omaha.—p. 45.
Obstruction of Pylorus in Infancy. A. A. Conrad, Crete.—p. 49.
Head Injuries. W. D. Abbott, Des Moines, Iowa.—p. 54.
Recent Advances in Endocrinology. J. F. Gardiner, Omaha.—p. 58.
Unusual Retinal Vascular Changes in Traumatic Injury of Chest: Angiopathia Retinae Traumatica: (Purtscher). W. H. Stokes, Omaha.—p. 60.
Cleft Palate. W. L. Shearer, Omaha.—p. 66.
Acquired Hemolytic Icterus: Report of Case. J. H. Lynch, Fairbury.—p. 71.
Therapeutic Value of Autogenous Vaccines. P. Levey, Omaha.—p. 75.
Treatment of Fractures of Femoral Neck by Open Operation. J. P. Lord, Omaha.—p. 77.
Rules of Health. V. E. Levine, Omaha.—p. 78.

New Jersey Medical Society Journal, Orange

28: 899-990 (Dec.) 1931

Pseudohermaphrodism: Case. J. F. Hagerty, Newark.—p. 899.
Our County. H. C. Barkhorn, Newark.—p. 900.
Cardiac Irregularities and Their Clinical Recognition. P. Marvel, Atlantic City.—p. 903.
Significance and Diagnosis of Silent Mitral Stenosis. J. Polevski, Newark.—p. 910.
Forcible Extension in an Ankylosed Joint. F. H. Church, Salem.—p. 914.
Overlapping the Rectus Muscles for Correction of Strabismus: Report of Cases. H. V. Hubbard, Plainfield.—p. 915.
Clinical Management of Heterophoria. J. H. Dunnington, New York.—p. 919.
Combined Orthoptic and Operative Treatment of Convergent Squint in Young Children. L. Emerson, Orange.—p. 923.
Pedographic Impressions in School Children. D. B. Hull, Ridgewood.—p. 928.
The Physician's Part in the Training of Teachers. Grace M. Kahrs, Jersey City.—p. 932.
Recent Advances in Acute Poliomyelitis. I. J. Wolf, Paterson.—p. 936.

29: 1-100 (Jan.) 1932

Fees, Specialists and Kindred Annoyances. E. J. Marsh, Paterson.—p. 1.
Personal Element in Medical Economics. H. S. Baketel, Jersey City.—p. 5.
Facts in Child Health Program of Common Interest to School and Community Health Officials. I. W. Knight, Pitman.—p. 9.
Health in Education from Point of View of School Administrators. W. J. White, Englewood.—p. 16.
Conditioned Reflex of Cerebral Cortex. W. H. Hicks, Newark.—p. 21.
Cutaneous Epithelioma: Differential Diagnosis and Treatment, with Lantern-Slide Demonstration. B. M. James, Newark.—p. 32.
Xeroderma Pigmentosum: Presentation of Two Cases. S. Nichols, Asbury Park.—p. 41.
Sustained Hypercreatinemia with Delayed Fatal Termination: Case Report. R. A. Kilduffe and S. L. Salasin, Atlantic City.—p. 42.
Blood Transfusion in Septic Diseases of Children. L. W. Brown, Newark.—p. 44.
Manganese Poisoning. F. P. Wilbur, Franklin.—p. 48.
An Analysis of Three Hundred Cases of Pain Treated by Magnesium Combinations. C. M. Trippe, Asbury Park.—p. 50.
The Other Fellow. J. M. Kuder, Mount Holly.—p. 59.

Ohio State Medical Journal, Columbus

28: 81-152 (Feb.) 1932

Burns and Their Treatment: Review of Three Hundred and Fifty-Two Cases. A. Strauss, Cleveland.—p. 101.
Rôle of Autonomic Nervous System in Endocrine Disturbances Relative to Eye. D. J. Lyle, Cincinnati.—p. 106.
Sterility. W. D. Fullerton, Cleveland.—p. 110.
Encephalography in Cases of Increased Intracranial Pressure. W. J. Gardner, Cleveland.—p. 115.
Mental Hygiene as Public Health Measure. S. C. Lindsay, Cleveland. —p. 119.
Metrazol as Stimulant During Surgical Anesthesia. E. M. Strasser, Cincinnati.—p. 123.
Personal Preventive Medicine. V. C. Rowland, Cleveland.—p. 124.

Oklahoma State Medical Assn. Journal, Muskogee

25: 1-50 (Jan.) 1932

Preoperative Preparation of Patients for Biliary Tract Surgery. F. S. Clinton and B. W. Ward, Tulsa.—p. 1.
Postoperative Care of Patient. C. K. Logan, Hominy.—p. 6.
Tetanus: Diagnosis, Prevention and Treatment. J. Haynie, Durant. —p. 9.
Injection Treatment of Varicose Veins. R. Q. Atchley, Tulsa.—p. 14.
Stricture of Urethra. O. R. Gregg, Enid.—p. 18.
Malta Fever. R. C. Sullivan, Ardmore.—p. 23.
Cesarean Section. W. H. Vogt, St. Louis.—p. 26.
Habitual Dislocation of Sternoclavicular Articulation: Case. E. E. Rice, Shawnee.—p. 34.

Philippine Island M. Assn. Journal, Manila

11: 457-498 (Dec.) 1931

Observation of Seven Hundred and Fifty-Eight Quiescent, or Arrested, Cases of Leprosy Released from Isolation. S. Chiyuto and F. Velasco, San Lazaro.—p. 457.
Problem of Control of Cholera Carriers. T. Corpus, Manila.—p. 469.
*Periarterial Sympathectomy in Trophic Ulcers of Leprosy: Preliminary Report. M. C. Cruz, J. I. Abuel and J. G. Samson.—p. 474.
Cholera Campaign and Experience Gained Therefrom. T. Corpus, Manila.—p. 477.
Early Diagnosis of Beriberi. T. J. Brennan, Baguio.—p. 482.
Care and Management of Children of Lepers. J. Rodriguez, Cebu.— p. 484.

Periarterial Sympathectomy in Trophic Ulcers of Leprosy.—Cruz and his associates submitted thirteen lepers with trophic plantar ulcers, eight of whom had unilateral and five bilateral involvement, to femoral periarterial sympathectomy. Operation was performed on only one extremity. The duration of the ulcers varied from two months to twenty years, in the majority of the cases from five to six years. All the patients had previously been treated by ordinary routine methods, and several had also undergone curettage and removal of sequestrums. Six cases showed active bone necrosis, five showed none, and in two cases roentgenograms were not taken. The immediate results of operation were good. The neuritic pains were relieved, and the ulcers on the operated side, without exception, dried and closed up in periods varying from ten to thirty days. Little or no improvement was observed in the ulcers on the unoperated side. The incidence of recurrence was rather high. Eight, or 61.5 per cent, showed recurrence of the ulcers from ten days to four months after healing. Four of them showed active bone necrosis; roentgenograms were not taken of two, and the remaining two did not show bone changes. Three cases have not shown recurrence after two months, one after four months, and one after five months.

Philippine Journal of Science, Manila

47: 1-195 (Jan.) 1932. Partial Index

New or Little-Known Tipulidae from Philippines (Diptera). XIII. C. P. Alexander.—p. 163.

Public Health Reports, Washington, D. C.

47: 131-183 (Jan. 15) 1932

Typhus Fever: Transmission of Endemic Typhus by Rubbing Either Crushed Infected Fleas or Infected Flea Feces into Wounds. R. E. Dyer, E. T. Ceder, W. G. Workman, A. Rumreich and L. F. Badger. —p. 131.
Studies in Asphyxia: II. Blood Chemistry Changes Resulting from Comparatively Rapid Asphyxia by Atmospheres Deficient in Oxygen. H. H. Schrenk, F. A. Patty and W. P. Yant.—p. 136.

47: 185-239 (Jan. 22) 1932

Further Study of Brucella Infection in Iowa. A. V. Hardy, C. F. Jordan and I. H. Borts.—p. 187.
Final Report on Rat-Flea Survey of San Juan, Porto Rico. A. L. Carrión.—p. 193.

Rhode Island Medical Journal, Providence

15: 19-38 (Feb.) 1932

President's Address: The Beginnings of Providence Medical Association. J. E. Donley, Providence.—p. 19.
*Late Manifestations of Syphilis in Aorta. M. N. Fulton, Providence. —p. 23.
Report of Milk Commission of Providence Medical Association. R. C. Bates, Providence.—p. 31.

Late Manifestations of Syphilis in Aorta.—Fulton states that cardiovascular syphilis is in the large majority of cases syphilis of the aorta. It occurs in the beginning as an aortitis, later as syphilitic aortic insufficiency with or without aneurysm, and should be looked for in all patients with late syphilis. It is often readily detected on roentgen examination. Great care should be taken in these unfortunate individuals to make the diagnosis early, for it is a condition that is amenable to treatment when recognized early. Treatment with mercury, iodides and arsenic should be persisted in over a long period of time and when carefully given will often both relieve the patient's symptoms and prolong his life.

Southern Medical Journal, Birmingham, Ala.

25: 113-210 (Feb.) 1932

Ocular Onchocercosis. R. Silva, Mexico City, Mexico.—p. 113.
Cancer of Large Bowel. J. S. Horsley, Richmond, Va.—p. 117.
Relation of Cancers of Skin and Skin Appendages to Focal Lesions in Other Ectodermal Structures: Study IV. M. T. Burrows, Pasadena, Calif.—p. 125.
Fibrin Bodies in Pneumothorax Cavities: Report of Case. C. H. Heacock Memphis, Tenn., and E. B. van Ness, Gulfport, Miss.—p. 133.
Urologic Problems in Childhood. A. Sprenger, Peoria, Ill.—p. 137.
Acute Vertebral Fractures Without Cord Injury. H. E. Conwell, Birmingham, Ala.—p. 141.
Guanidine as Toxic Substance in Blood of Infants Following Acute Dehydration. H. Casparis, Nashville, Tenn.—p. 147.
Diagnosis and Treatment of Bronchiectasis. A. Ochsner, New Orleans. —p. 149.
Treatment of Acute Empyema by Open Method. F. K. Boland, Atlanta, Ga.—p. 151.
Immunizing the Sinus Patient. J. J. Shea, Memphis, Tenn.—p. 154.
Personal Experiences with Leprosy. H. Morrow, San Francisco.—p. 158.
Breech Presentations. O. H. Schwarz, St. Louis.—p. 162.
Prenatal Care. J. R. McCord, Atlanta, Ga.—p. 166.
Pain Associated with Menstruation: Based on Review of Literature for Past Ten Years and Analysis of Questionnaires Sent to One Thousand Physicians. T. B. Sellers, New Orleans.—p. 167.
Recent Neurologic Advances and Their Importance in Field of Medicine. T. Fay, Philadelphia.—p. 175.
Psychotherapeutics in General Practice. W. R. Houston, Augusta, Ga. —p. 182.
Federal and Local Public Health. F. de P. Miranda, Mexico City, Mexico.—p. 187.
Hookworm Disease in Certain Parts of South: New Plan of Attack. C. W. Stiles, Washington, D. C.—p. 189.
Tuberculin Test and Roentgen Ray in Tuberculosis Control. P. P. McCain, Sanatorium, N. C.—p. 192.
Anastomoses in Gastro-Intestinal Surgery, Employing New Aseptic Button. J. T. Nix, New Orleans.—p. 196.
Some Urologic Problems of South. W. Grant, Louisville.—p. 200.
Responsibilities of Railroad Surgeon. J. D. Collins, Norfolk, Va.—p. 201.

Surgery, Gynecology and Obstetrics, Chicago

54: 129-256 (Feb.) 1932

*Hemorrhagic Retinitis in Vomiting of Pregnancy. H. J. Stander, Baltimore.—p. 129.
*Clinical and Experimental Basis for Surgery of Pelvic Sympathetic Nerves in Gynecology. R. Fontaine and L. G. Herrmann, Strasbourg, France.—p. 133.
*Highly Malignant Tumors of Pharynx and Base of Tongue: Identification and Treatment. G. B. New, A. C. Broders and J. H. Childrey, Rochester, Minn.—p. 164.
Scientific and Social Aspects of Orthopedics. M. Jansen, Leiden, Netherland.—p. 175.
Histogenesis and Tendency to Bilaterality of Papillary Ovarian Cysts. R. B. McCarty, Riverside, Calif.—p. 188.
Technic for Vaginal Hysterectomy. W. W. Babcock, Philadelphia. —p. 193.
Technic of Formation of an Artificial Vagina. H. Grad, New York. —p. 200.
*New Method for Treating Fractures, Utilizing the Well Leg for Countertraction. R. Anderson, Seattle.—p. 207.
Surgery of the Undescended Testis. O. H. Wangensteen, Minneapolis. —p. 219.
Gas Gangrene in Civil Life. W. M. Millar, Cincinnati.—p. 232.
Comparative Study of Tuberculous Lesions of Urogenital Tract. C. M. McKenna and H. C. Sweany, Chicago.—p. 239.
Right Paraduodenal Hernia. E. Dowdle, Detroit.—p. 246.

Hemorrhagic Retinitis in Vomiting of Pregnancy.—Stander believes that hemorrhagic retinitis appearing during the course of vomiting of pregnancy is of grave prognostic significance and an indication for therapeutic abortion. Routine and repeated examinations of the eyegrounds should be conducted

on all patients suffering from severe vomiting of pregnancy. The character of the hemorrhagic retinitis seen in two cases of vomiting of pregnancy makes it probable that the eye lesion is caused by a change in the permeability of the capillary walls. Necrosis in the anterior lobe of the hypophysis is sometimes seen in fatal cases of vomiting of pregnancy.

Surgery of Pelvic Sympathetic Nerves—According to Fontaine and Herrmann, the anatomic and physiologic basis for the surgery of the pelvic sympathetic nerves in gynecology is now well established. In twenty-two cases of dysmenorrhea or pelvic plexalgia, which they present, there was complete and lasting relief from the pelvic pain in the great majority of the cases following the resection of the superior hypogastric plexus (presacral nerve). Disturbances of micturition following this operation must be considered very rare. Clinical and experimental evidence has shown that the superior hypogastric plexus is essentially a pathway for afferent impulses from the internal genital organs. The excruciating pain that is frequently associated with inoperable neoplasms in the pelvis can be completely relieved by an extensive pelvic sympathectomy. In all cases, even those in which the most extensive pelvic sympathectomy was performed, there have never been any serious complications that could be attributed to the operation: no motor paralysis, no ascending urinary infection due to paralysis of the bladder, and no sensory disturbances of any part of the skin. Since this operation also gives the surgeon an opportunity of verifying the extent and nature of the neoplasm at the same operation, the authors believe that it should be used in preference to chordotomy for the relief of intolerable pain in the pelvis that is due to an inoperable neoplasm of any of the pelvic organs, provided the pain is not due to metastatic foci in the vertebrae. They describe in detail the indications and the surgical technic for the various forms of pelvic sympathectomy.

Tumors of Pharynx and Base of Tongue.—New and his associates state that the most common malignant tumors of the pharynx and base of the tongue are the lymphosarcomas and the squamous cell epitheliomas graded 3 or 4. During a period of fourteen years they have examined in the Mayo Clinic 1,393 patients with such tumors. They present a review of 624 of these tumors which have been examined microscopically. Of all the patients, 29.2 per cent were treated. There was not much difference between treated and untreated patients; 74.95 per cent had been treated previously, and 39.42 per cent had been operated on previously. A great variety of surgical and nonsurgical treatment had been given previously in almost all cases, without the proper diagnosis having been made. Patients were treated at the clinic by irradiation. Surgical procedures, diathermy or the cautery were used with this in selected cases. Lymphosarcoma was treated almost entirely with irradiation. Of the patients, 89.2 per cent were traced. Seventy-one (40.3 per cent) of patients treated were alive after an average of 43.1 months. Nineteen (10.8 per cent) of patients treated lived fifty-nine months. Eighty-six (48.8 per cent) of the patients treated lived 19.9 months. Of all patients treated, 16.48 per cent are alive three years or more. All patients treated averaged 34.5 months of life after examination, and all patients untreated average 6.8 months of life after examination. A higher percentage of patients with epithelioma graded 4 are alive than of those with lymphosarcoma, but the duration of life after examination is longer in cases of lymphosarcoma. Palliative treatment had little, if any, effect in prolonging life. The life expectancy from onset of symptoms of all patients treated was 42.7 months. The life expectancy from onset of symptoms of all patients untreated was 17.9 months. Of those who died, 96 per cent died of the malignant process, the local lesion causing the death of 84.5 per cent.

New Method for Treating Fractures.—The new method of fracture treatment described by Anderson depends on skeletal traction of the injured leg, while it employs the well leg for countertraction. An original splint was devised on the application of this principle, thus connecting injured-leg skeletal traction with well-leg countertraction. While extremely simple, it has a wide range of adjustability, for abduction or adduction and internal or external rotation may be had at any time, without letting up on traction. This method has been successfully used for dislocation of the symphysis pubis, for injuries and fractures of the pelvis, neck of the femur, intertrochanteric fractures and fractures of the shaft of the femur and of the tibia. For hip fractures, abduction is obtained by displacement of the injured acetabulum downward as the result of the pull of skeletal traction, while the well acetabulum is displaced upward as the result of the push of countertraction, with no tilt to the spine on the pelvis. This apparatus is more than a valuable substitute for the fracture traction table in operative work on nonunion and reconstruction cases. A solid pin used is empirically safe. Five years without a single incidence of infection either before or after removal is proof against any adverse criticism. Adaptations have been provided in order that the splint may be used with tongs, wire and pin spreader, also for Buck's extension, and attachments for the Russell and Maxwell-Ruth methods. The original method or its modifications has been used successfully without application of any cast to the injured leg. The small hospital can now handle these cases as efficiently as the more elaborately equipped hospital, since an expensive fracture table, portable x-ray machines and an extensive equipment of ropes, pulleys and weights are nonessential. This new method benefits the patient in shortening hospitalization, minimizing complications and discomforts, and at the same time assuring better anatomic and physiologic results. Benefits to the physician are economy of time, in application and especially in after-care, through simplification of the process of reduction and surety of immobilization and traction, plus economy of anxiety through assurance of better anatomic and physiologic results.

Texas State Journal of Medicine, Forth Worth

27: 697-766 (Feb.) 1932

*Neoplasms: Their Classification, Diagnosis and Prognosis. W. C. MacCarty, Rochester, Minn.—p. 704.
Emotional and Psychic Factors in Skin Disease. E. D. Crutchfield, San Antonio.—p. 707.
*Conservative Treatment of Eclampsia. H. R. Robinson, Galveston.—p. 708.
Management of Abortion. J. L. Jinkins and W. J. Jinkins, Galveston.—p. 713.
Cauterization of Cervix During Pregnancy. B. H. Passmore, San Antonio.—p. 716.
Hunner's Ulcer. A. I. Folsom, Dallas.—p. 718.
Hematuria. J. H. Turner, Houston.—p. 721.
Urinary Lithiasis. J. M. Venable, San Antonio.—p. 725.
Cystitis. P. B. Stokes, Wichita Falls.—p. 728.
Emotional and Psychic Factors in Genito-Urinary Diseases. A. G. Cowles, San Antonio.—p. 731.
Traumatic Lesions of Cornea. E. W. Girffey, Houston.—p. 732.
Septicemia Resulting from Acute Infections in Nose and Throat. A. F. Clark, San Antonio.—p. 737.
Case of Melanosis of Eye Treated by Radium. R. H. Millwee, Dallas.—p. 740.
Emotional and Psychic Factors in Ophthalmology and Laryngology. R. K. Daily, Houston.—p. 741.
Endothelioma. L. Rice and H. Hartman, San Antonio.—p. 742.

Neoplasms.—On the basis of his experience with over 50,000 neoplasms, MacCarty recognizes three great groups: (1) those neoplasms composed of adult cells with normal tissue arrangement; (2) those composed of cells normally or nearly normally arranged but having a morphology of malignant regenerative cells, and (3) those composed of cells of the malignant regenerative type not arranged in any fashion approaching that of any normal tissue. Clinical experience has shown that neoplasms of the first group are not invasive and do not metastasize. They interfere with the function of the organ or tissue containing them and sometimes, by their expansive growth, interfere with neighboring structures. They are spoken of as being clinically benign, although they not infrequently kill their host and in this sense are sometimes just as malignant as groups 2 and 3. Such terms as adenoma, osteoma, neuroma, myoma and chondroma have been applied to tumors in this first group. The second and third groups embrace the so-called clinically malignant tumors, the adjective "malignant" usually connoting invasion of normal tissues by the new cells and their migration to other parts of the body, thus forming metastases. From a practical standpoint there is no great clinical difference between group 2 and group 3. Both are malignant and both kill the host. The only differences are the histologic pictures and the usual greater malignancy of group 3. The therapy for the two groups is the same. Prognosis in all is dependent on at least seventeen known factors: the type of neoplasm, presence or absence of lymph node involvement and metastasis, fixation of the growth, anatomic location, renal and cardiac efficiency, presence or absence of anemia, size of the growth, age of the

host, duration of the disease, direction of growth, presence or absence of loss of weight, presence or absence of cellular differentiation, lymphocytic infiltration, fibrosis and hyalinization and, finally, the destructive extent of therapy.

Eclampsia.—According to Robinson, the end-results in the treatment of antepartum and intrapartum eclampsia are twice as good under conservative as under radical treatment. Those patients do best who are subjected to the least amount of obstetric intervention. Nitrous oxide anesthesia is the anesthetic of choice during manipulation. Ether is used at times, while chloroform is the worst of offenders. Venesection to the extent of from 500 to 1,000 cc. followed by the introduction of a like amount of 10 per cent solution of dextrose, should be resorted to if the blood pressure is above 150 mm. and convulsions continue. The intravenous injection of 20 cc. of a 10 per cent solution of magnesium sulphate will control the convulsions of eclampsia in many cases and exercises a favorable influence on the other symptoms of eclampsia. Delivery should be accomplished only after complete dilatation of the cervix has taken place. Cesarean section should be discouraged as a routine procedure. It should be done only when there is a long undilated cervix, or when the eclampsia comes on with severe violence and rapidly succeeding convulsions or, of course, when a mechanical disproportion exists between the pelvis and the child. Not all eclamptic gravidas on whom cesarean section is done die, and many eclamptic patients will die in spite of treatment. The author emphasizes that one must be radical in one's conservatism; half-way measures invite failure. To employ morphine timidly in one-sixth grain (11 mg.) doses and to remove little or no blood is to court failure.

Virginia Medical Monthly, Richmond

58: 707-772 (Feb.) 1932

Interrelationships Between Curative and Preventive Medicine. W. F. Draper, Richmond.—p. 707.
Uterine Fibromyomas: Review of One Thousand One Hundred and Forty-Five Cases Treated by Surgery or Radium. R. L. Payne, Norfolk.—p. 713.
*Cancer of Stomach. C. Williams, Richmond.—p. 717.
Relation of Infection in Early Life to Subsequent Mental Disorder. B. M. Randolph, Charlottesville.—p. 719.
Advantages of Plaster Traction Splint. J. B. Dalton, Richmond.—p. 723.
Is the Family Physician Any Longer a Necessity? J. H. Hiden, Pungoteague.—p. 725.
Roentgen Ray in Emergency Surgery. M. H. Todd, Norfolk.—p. 727.
*Transplantation of Ureters into Large Intestine: Report of Three Cases. A. I. Dodson, Richmond.—p. 731.
Induction of Labor by Artificial Rupture of Membranes. M. P. Rucker, Richmond.—p. 736.
Myelogenous Leukemia with an Aleukemic Stage Simulating Agranulocytosis: Case Report. H. W. Potter, Newport News.—p. 739.
Use of Instruments of Precision in Diagnosis of Heart Disease. J. W. Hunter, Jr., Norfolk.—p. 743.
Teaching of Prenatal and Postnatal Care. G. Baughman, Richmond.—p. 749.
Two Unusual Types of Fistula, with Case Reports. J. M. Howe, Washington, D. C.—p. 751.
Colored Photography of Anterior Segment of Eye. L. Hyde, Washington, D. C.—p. 753.

Cancer of Stomach.—Williams believes that about 25 per cent of gastric carcinomas arise on preexisting benign ulcers. The usual first symptoms of cancer of the stomach are epigastric pain, vague indigestion, and weakness occurring in elderly people accustomed to good health. The diagnosis of cancer of the stomach in the early stages must be made by roentgen examination, and patients should be referred for roentgen examination on suspicion by the clinician. Benign ulcers of the stomach when treated medically should be observed closely and, if no improvement is obtained in three or four weeks, they should be referred to the surgeon for operation. The surgical mortality rate for benign and early malignant lesions (from 2 to 3 per cent) is lower than the medical mortality rate from cancer present or later developing and from perforation of ulcers.

Transplantation of Ureters into Large Intestine.—Dodson reports three cases of transplantation of the ureters into the large intestine, the first resulting fatally apparently from some break in operative technic. The infection, from all the available evidence, did not arise from the site of the anastomosis. In the second case there was an intestinal obstruction, which may have been due to the placing of cigaret drains in the pelvis. In the third case, in which no drainage was used, postoperative recovery was smoother, and in view of the fact that in neither of these cases was there any evidence of infection at the site of anastomosis, the author feels that operation without drainage offers the best chance of a smooth convalescence and good results. In the third case, no packing was used in the rectum. It seems to the author that when an assistant can easily reach the catheters in the bowel, as in small children, the operation might be done quite as satisfactorily without the packing and with less trauma to the intestinal mucosa and a shorter anesthesia. The operation for transplantation of the ureters, as developed by Coffey, offers the only satisfactory procedure of dealing with exstrophy of the bladder. It provides a safe method of handling those patients whose bladders have become useless because of destruction of the sphincters, intolerable pain, and so on. It affords a possibility of more satisfactory treatment of certain types of malignant disease of the bladder by transplantation of the ureters and complete destruction of the bladder either by surgical extirpation or by the cautery and radium.

West Virginia Medical Journal, Charleston

28: 49-96 (Feb.) 1932

Some Phases of State Medicine. W. R. Gries, Cincinnati.—p. 49.
Cleft Lip and Cleft Palate. E. C. Armbrecht, Wheeling.—p. 59.
Future of Practice of Medicine. A. H. Hoge, Bluefield.—p. 65.
Chronic Deafness. W. F. Beckner, Huntington.—p. 70.
A Doctor Looks at Counter Prescribing. H. T. Phillips, Wheeling.—p. 74.

Wisconsin Medical Journal, Madison

31: 70-143 (Feb.) 1932

Idealism in Medicine. J. M. Dodd, Sr., Ashland.—p. 81.
Positive Factors in Diagnosis of Pulmonary Tuberculosis. H. M. Coon, Stevens Point.—p. 84.
Treatment of Pulmonary Hemorrhage. A. L. Banyai, Wauwatosa.—p. 88.
What Surgery Has to Offer the Patient with Pulmonary Tuberculosis. J. W. Gale and W. S. Middleton, Madison.—p. 91.
Roentgenologic Signs and Differential Diagnosis of Principal Malignant Diseases of Lungs and Mediastinum. B. R. Kirklin, Rochester, Minn.—p. 95.
Diaphragmatic Hernia: Report of Case. E. B. Keck, Madison.—p. 99.
Traumatic Appendicitis: Report of Case. L. Milson, Green Bay.—p. 100.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Radiology, London

5: 1-96 (Jan.) 1932

British Institute of Radiology. Rutherford.—p. 3.
Tuberculous Bronchiectasis: Case. F. G. Wood.—p. 9.
Presidential Address. A. E. Barclay.—p. 10.
What Is Radiation? J. Jeans.—p. 21.
Comparison of Medical, Surgical and Radiologic Conceptions in Relation to Treatment of Disease. H. Holfelder.—p. 39.
Use of Roentgen Rays in Study of Pearls. B. W. Anderson.—p. 57.
Rationalization of Roentgen-Ray Exposures. G. Simon.—p. 65.
Some Further Observations on Pulmonary Asbestosis. J. V. Sparks.—p. 75.

Glasgow Medical Journal

36: 1-56 (Jan.) 1932

*Significance and Interpretation of Pain. D. Duff.—p. 1.
An Investigation into Value of Bendien Chemical Test. J. Fine.—p. 13.

Significance and Interpretation of Pain.—Duff calls attention to two definite types of pain. He believes that, if these types can be distinguished from each other, the majority of the causes of pain can be elucidated. One type—visceral—is represented by the pains that arise in fibromuscular tubes; the pain is spasmodic, cramplike, ill defined as to locality; the patient when asked to indicate the exact site of the pain usually passes his hand over a fairly wide area; there is no local rigidity or skin tenderness. The other type—the somatic—is definitely localized, usually continuous, may be throbbing when inflammatory reaction is present, and is associated with muscle rigidity and with superficial and deep tenderness. There may be a combination of the two types, as is seen in some acute abdominal conditions; but if the broad distinction between the types is borne in mind, accurate diagnosis should be facilitated.

Guy's Hospital Gazette, London

46: 21-36 (Jan. 23) 1932

Treatment of Malignant Disease from Standpoint of Radiation. C. E. Iredell.—p. 22.
Cysts of Jaws and Their Treatment. E. B. Dowsett.—p. 26.
Medical Centenaries of 1932. H. T. Butcher.—p. 30.

Journal of Pathology and Bacteriology, Edinburgh

35: 1-147 (Jan.) 1932

*Reticulum Cell Carcinoma of Thymus: Case. S. McDonald, Jr.—p. 1.
*Mitosis in Hepatic Metastases of Malignant Tumors. R. A. Willis.—p. 11.
*Sacculated Intracerebral Aneurysm of Middle Cerebral Artery: Contribution to Knowledge of Cerebral Vascular Malformations. W. H. Chase.—p. 19.
*Polypi Coli. W. Susman.—p. 29.
*Action of Antivaccinial Serum on Vaccinia Virus. R. W. Fairbrother.—p. 35.
*Further Observations on Pathogenesis of Experimental Poliomyelitis: Intrathecal Inoculation of Virus. E. W. Hurst.—p. 41.
Comparison of Changes in Blood Sugar and Blood Phosphorus in Rabbits Following Injection of Suspensions of Different Dead Bacteria. M. E. Delafield.—p. 53.
Plasmacytoma of Nasopharynx. J. W. S. Balacklock and C. Macartney.—p. 69.
Observations on Salmonella Agglutination and Related Phenomena: Concerning an Alcohol-Soluble Antigen (Substance Q). P. B. White.—p. 77.
"Dilution Ratio" of Diphtheria Antitoxin as Measure of Avidity. A. T. Glenny and Mollie Barr.—p. 91.
Relative Incidence of Human and Bovine Tubercle Bacilli in Tuberculous Meningitis in England. A. S. Griffith.—p. 97.
Capillary Hemangioma of Spinal Cord Associated with Syringomyelia. Dorothy S. Russell.—p. 103.
*Relation of Liver to Disposal of Hemoglobin. R. Muir and J. S. Young.—p. 113.

Reticulum Cell Carcinoma of Thymus.—On the basis of a case that he observed and a review of the literature, McDonald concludes that the origin of thymic carcinoma from the reticulum cells is clearly demonstrated. The neoplastic reticulum cells exhibit great pleomorphism, but it is usually possible to find more differentiated types comparable to the normal cells. The arrangement of the parenchyma exhibits considerable variation in different cases and even in the same case. The common types appear to be alveolar and reticular. The existence of Hassall's corpuscles in thymic carcinomas is an extremely variable phenomenon and cannot be cited as a necessary criterion of thymic origin.

Mitosis in Hepatic Metastases of Malignant Tumors.—Willis describes a simple and reliable technic for the postmortem enumeration of the proportion of the cells in mitosis in malignant tumors. Nine tumors of various nature and origin and their hepatic metastases were examined, and, in all, the mitotic activity of the hepatic deposits decidedly exceeded that of the primary growths. Evidence is advanced in support of the view that liver tissue is a highly favorable medium for the growth of most kinds of malignant cells, and it is suggested that this may be related to the high carbohydrate content and low arterial vascularity of the liver.

Sacculated Intracerebral Aneurysm of Middle Cerebral Artery.—Chase reports a case of a single large sacculated ruptured aneurysm on the right middle cerebral artery at the position of its cortical branches, and lying entirely within the right cerebral hemisphere. A histologic and anatomic study of the intracranial vessels suggests that the aneurysm developed as the result of a congenital defect in the vessel wall at a point of branching.

Polypi Coli.—Susman found polypi coli in 6 per cent of 1,100 necropsies. No preference for any particular segment of the colon was noted. In about one half of the cases of carcinoma coli polypi coexisted, and in about one third of this group there were malignant polypi. Of the sixty-six cases showing polypi coli, fifteen, or about one fourth, were also cases of carcinoma coli. Polypi coli occurred most commonly in males and in later adult life. Only 7 per cent of the affected individuals were under 40 years of age.

Action of Antivaccinial Serum on Vaccinia Virus.—Fairbrother states that, when the intradermal route is used, neutralization of the infectivity of the vaccinia virus occurs with great regularity irrespective of the time allowed for contact in vitro of the serum and the virus. This suggests that the serum acts as much on the local tissue cells as on the virus; the fact that normal rabbit serum does not possess this neutralizing property indicates that the action involved is specific. In contrast to the intradermal route, the activity of the virus was not easily modified by the immune serum when the mixture was injected into the brain. An appreciable alteration in the infectivity of the virus was shown only when the virus, suitably diluted, remained in contact in vitro with the immune serum for at least four hours. It is probable that the virus becomes sensitized by the serum and is then more readily destroyed by the body cells. Support of this hypothesis is furnished by the results of Andrewes, who found that the virus was not destroyed by four hours' contact with immune serum at room temperature, as it could easily be recovered by various means.

Pathogenesis of Experimental Poliomyelitis.—Hurst describes experiments on monkeys in which he noted that, after intrathecal inoculation of poliomyelitis virus, the distribution both of virus and of lesions in the cerebral hemispheres is strikingly different from that of the maximum meningitis, or of the deepest staining with dyestuffs injected into the fluid. Frequently the earliest lesions are situated in the floor of the fourth ventricle, into which under the conditions of experiment the virus regurgitated at operation, and the influence of axonic transmission in their subsequent spread is again evident. It is suggested that penetration of the nervous tissues may occur through the ependyma of the fourth ventricle, but an attempt to demonstrate the impermeability of a purely meningeal surface was unsuccessful. Considering the pathogenesis of human poliomyelitis, the author concludes that no evidence at present available speaks against an axonic entry of the virus or necessitates the participation of the cerebrospinal fluid in its spread through the nervous system.

Relation of Liver to Disposal of Hemoglobin.—When Muir and Young introduced hemoglobin in considerable amounts into the circulation of rabbits, they failed to find any evidence that it was excreted in the bile. In similar circumstances they also failed by microchemical methods to find evidence that the hemoglobin is taken up by the liver cells or by the Kupffer cells. This contrasts with the fact that, as a result of hemoglobinemia, the cells of the kidney give a distinct iron reaction at a very early stage. The spleen does not show the characteristic swelling that occurs as the result of hemolytic poisons. In chronic hemoglobinemia produced by repeated intraperitoneal injections of hemoglobin solution, an increase of the iron in the liver does occur but it takes place slowly and does not reach the amount observed in the anemia produced by a hemolytic serum. The reason for this difference is not known. The possibility that in such experiments the iron is carried from local deposits to the liver in some other form than hemoglobin cannot be excluded. In chronic hemoglobinemia the main feature is the large accumulation of granular hemosiderin in the kidney cells, the percentage of iron in them being much higher than in the liver cells. The experiments, taken as a whole, have not given support to the view that hemoglobin as such is taken up by the cells of the liver and broken up by them.

Lancet, London

1: 169-220 (Jan. 23) 1932

Comments on Some Recent Excursions in Therapeusis. T. Horder.—p. 169.
*Active Immunization and Diphtheria. P. M. May and S. F. Dudley.—p. 172.
The Mind in Tubercle. A. Morland.—p. 176.
Vaccine Treatment in Infective Arthritis. Phyllis M. Congdon.—p. 178.
Multiple Malignant Growths of Buccal Cavity. J. B. Oldham.—p. 180.

Active Immunization and Diphtheria.—May and Dudley state that the experience of active immunization at Greenwich Hospital School forces home the practical lesson that, provided a case is known to give an undoubted Schick negative reaction (not merely to have had a prophylactic course of inoculations), the throat swab can be discarded and such sore throats diagnosed and treated on their clinical face value. Thus, active immunization by an indirect psychologic action reduces the number of diphtheria notifications in two ways. First, the confidence produced by the knowledge that the patient and all his contacts are Schick immune prevents the physician from notifying any type of sore throat as diphtheria and sending the patient to a fever hospital merely on the safety-first principle. Thus the positive error in diagnosis is diminished. Second, the mild, indefinite and transitory cases of "real" diphtheria, which admittedly sometimes occur in Schick immune subjects, will often be "missed" if the throat swab is not regularly used, or, if it is used, such cases may be classed wrongly as "diphtheria carriers with coincident sore throats." In this way the negative error in diagnosis is increased.

Medical Journal of Australia, Sydney

1: 1-34 (Jan. 2) 1932

A Review of the Year's Work. T. E. V. Hurley.—p. 1.
Gas Anesthesia of Today: Travel Report. G. Kaye.—p. 6.
Chopin and His Fourteen Doctors. K. L. Barry.—p. 10.
Comparison of Kline and Wassermann Tests. Phyllis G. Ashworth. —p. 14.

1: 69-110 (Jan. 16) 1932

*Collapse Therapy in Treatment of Pulmonary Tuberculosis. H. W. Wunderly.—p. 74.
Some Notes on Use of Thoracoplasty in Pulmonary Tuberculosis. L. C. E. Lindon.—p. 84.
Some Observations on Bromide Therapy and Intoxication. C. Sippe and J. Bostock.—p. 85.

Collapse Therapy in Treatment of Pulmonary Tuberculosis.—Wunderly believes that every patient should be observed for a period of from one to three months before any form of surgical treatment is instituted. There are two exceptions to this rule and those are patients with severe or repeated hemoptysis and those with cavity formation or bronchiectatic dilatation, when there can be no hope of a cure except by some form of temporary or permanent collapse. As long as one lung is comparatively healthy, a tuberculous lesion of the other lung which is progressing in spite of careful sanatorium treatment must be regarded as an indication for artificial pneumothorax. Chronic fibrocaseous types are the most favorable for this form of treatment. Provided the collapse is satisfactory it is possible to obtain good results in active advancing cases of caseous pneumonic and caseous bronchopneumonic types of tuberculosis. In unilateral cavity cases, the sooner the pneumothorax is established the better. Bilateral pneumothorax is indicated when a pneumothorax has been established on one side and the contralateral lung shows signs of progressive disease. A spontaneous tuberculous pneumothorax should be converted into a controlled artificial pneumothorax. Tuberculous pleurisy with effusion should be treated by replacing the fluid with air, and an artificial pneumothorax should be maintained according to the indications of the underlying disease. Renal and cardiac failure, extensive emphysema or severe asthma are absolute contraindications to collapse therapy. Tuberculosis of the larynx, provided the epiglottis is not ulcerated and interfering with the nutrition of the patient, is not a contraindication and is often influenced favorably by a satisfactory collapse. Tuberculosis of the intestine is an absolute contraindication. A patient whose tuberculosis is complicated by pregnancy should be submitted to abortion before the third month, but if she is seen in the later months an artificial pneumothorax should be established and maintained.

Japanese Journal of Experimental Medicine, Tokyo

9: 509-635 (Dec. 20) 1931

Influence of Parenterally Introduced Aorta Wall Cell Constituents on Blood Pressure and Blood Gas: I. Influence of Endothelial Cell Constituents on Blood Gas. I. Sato.—p. 509.
Id.: II. Influence of Aorta Endothelial Cell Constituent on Blood Pressure. I. Sato.—p. 519.
Id.: III. Influence of Aorta Muscle Cell Constituents on Blood Pressure. I. Sato.—p. 527.
Experimental Study on Development of Ancylostoma Duodenale: I. Development in Rabbit of Larvae of Ancylostoma Duodenale Dubini Previously Treated with Cell Emulsion of Human Organs. K. Nakajima.—p. 553.
Id.: II. Development of Larvae of Ancylostoma Canium Ercolani in Normal Host, Dog, and in Abnormal Hosts, Rabbit, Guinea-Pig and White Rat. K. Nakajima.—p. 569.
Fate of Ancylostoma Canium Larvae Orally or Percutaneously Transmitted to Proper Host, Dog Fed on Vitamin Deficient Diet: I. Experiment on Puppies Fed on Vitamin A Deficient Diet. T. Nagoya.—p. 573.
Id.: II. Experiment on Puppies Fed on Diet Deficient in Vitamin B. T. Nagoya.—p. 587.
Id.: III. Histologic Investigation on Puppies Fed on Vitamin A Deficient Diet, Those Fed on Vitamin B Deficient Diet and Those Fed on Normal Diet. T. Nagoya.—p. 595.
Fate of Ancylostoma Canium Larvae Orally or Percutaneously Transmitted to Abnormal Host (White Mouse) Fed on Vitamin Deficient Diet: IV. Experiment on Normal White Mouse, White Mouse Fed on Vitamin A Deficient Diet and White Mouse Fed on Vitamin B Deficient Diet. T. Nagoya.—p. 603.
Welch-Fraenkel Bacilli: Their Toxins and Antitoxins. S. Shiraishi. —p. 613.
Effect of Some Chemical Factors on Survival of Purified Vaccine Virus. H. Yaoi and H. Kasai.—p. 619.

Archives Méd.-Chir. de l'App. Respiratoire, Paris

6: 303-397, 1931

Aneurysm of Right Branch of Pulmonary Artery. M. R. Castex, A. V. di Cio and A. Battros.—p. 303.
Intrapleural Pressure in Spontaneous Pneumothorax. N. Stoichitza and G. Dinischiotu.—p. 317
*Acute Pulmonary Edema. C. Lian.—p. 345.

Acute Pulmonary Edema.—Lian defines acute pulmonary edema as an attack of suffocation accompanied by the expectoration of more or less mucus, often reddish and always strongly albuminous, caused by a sudden inundation of the pulmonary alveoli by an abundant transudation of serous fluid. His etiologic, pathogenic, clinical and therapeutic studies covered a period of twenty years. In the etiology are considered the principal causes as diseases of the aorta, arterial hypertension, nephritis and also the mitral valvular cardiopathies, acute infectious diseases, intoxications, nervous diseases, cerebral embolism and thrombosis, and complications of thoracentesis and abdominal paracentesis. After a discussion of the pathogenesis he concludes that pulmonary edema is due to the summation of two mechanical factors: insufficiency of the left ventricle and vasomotor nervous disturbance. Among the clinical forms he discusses the bronchoplegic, the attenuated and the localized forms, and the forms caused by mitral stenosis, acute infectious diseases and war gas. Diagnosis is not difficult but it is important to differentiate between cardiac pseudo-asthma and acute pulmonary edema. Prognosis depends on the amount of expectoration and on the resistance of the patient's cardiovascular system. The author bases prescription of treatment on the two factors prominent in acute pulmonary edema: the insufficiency of the left ventricle and the vasomotor disturbances.

Marseille Médical

68: 693-756 (Dec. 5) 1931

*Psychic Disturbances in Undulant Fever. H. Roger.—p. 694.
Late Melitococcic Meningitis: Two Cases. H. Roger.—p. 715.
*Cerebral Vascular Spasms in Undulant Fever with Cerebral and Meningeal Complications. H. Roger.—p. 727.
Do Very Late Melitococcic Meningitis Complications Exist? H. Roger. —p. 734.

Psychic Disturbances in Undulant Fever.—Roger asserts that the appearance of psychic manifestations during the course of undulant fever is frequently of unfavorable prognostic import. Among eighteen cases collected, ten ended fatally. Treatment should be directed toward the causal infection. Some of the more or less specific therapeutic agents recognized in undulant fever are vaccines, serum, methylthionine chloride and sulpharsphenamine. The author recommends baths, sedatives and hypnotics for delirium and agitation, and nerve tonics for asthenia. He concludes that asthenia is frequent in undulant fever, but true mental complications are not frequent. Nephritic delirium is often attended by a depressive tendency; it appears at the onset or often at the end of the infection; it sometimes accompanies a radiculoneuritic disturbance (producing a Korsakoff's syndrome); it can be the principal manifesation of undulant fever. The psychic disturbances darken considerably the prognosis of undulant fever.

Undulant Fever with Cerebral and Meningeal Complications.—Roger discusses five observations of cerebral vascular spasm in the course of undulant fever. These vascular spasms are most often characterized by formication traveling from the extremity of the upper limb to the shoulder and then to the face or inversely descending from the nape of the neck to the lower limb. When the face is affected, speech becomes difficult either through dysarthria associated with paresthesia of the tongue in the cases in which the dysesthesias occupy the left half of the body, or by true aphasia in the cases in which the paresthesia is on the right side. The sensory disturbances may sometimes be associated with motor disturbances. The vascular spasms occur at various intervals in different individuals, sometimes every day, and (in one case) at the same hour of the day for ten days, or every two to three days, at the beginning of the meningeal or encephalic syndrome. Later they disappear not to return even if the clinical aspect is aggravated. This association of cerebral vascular spasms with an intense biologic meningeal reaction seems highly characteristic of undulant fever. The author concludes that

his observations show that undulant fever not only affects the brain and meninges more frequently than one believes, but, without producing a true melitococcic arteritis of the middle cerebral artery, it usually determines, in the course of these encephalomeningeal reactions, an irritation of this artery; the latter manifests itself by spasms of the type of brachiofacial dysesthesia and of aphasia.

Revue Gén. de Clinique et de Thérapeutique, Paris

46: 17-112 (Jan. 9) 1932. Partial Index

*Splenic Anemias. E. Benhamou.—p. 17.

Splenic Anemias.—Benhamou believes that "splenic anemia" should designate anemias that are accompanied by an enlarged spleen and are caused by the condition of the spleen. After a discussion of acute, subacute and chronic anemias, two great syndromes, Banti's syndrome and a hemolytic type of syndrome, are definitely included in that category. If one or the other syndrome is present, if the anemia is moderate, but with a tendency to progression, if there is leukopenia and decrease in platelets, if the bilirubin of the blood is increased and the cholesterol is decreased, and especially if the test for splenic contraction is negative after several trials, splenectomy is formally indicated. An abnormally elevated leukocytosis, the presence of immature cells after injection of epinephrine, and an abnormal increase in platelets are contraindications. Disturbance in the kidney proved by clinical and laboratory examination is a contraindication. Keeping these criteria in mind, splenectomy will give remarkable results: The red blood cells increase, the platelets and the white cells remount, the hemoglobin is increased, and the bilirubin and the cholesterol of the blood become normal; the general condition improves and the patient may become definitely cured of his splenic anemia.

Revue Sud-Am. de Méd. et de Chir., Paris

2: 1169-1260 (Dec.) 1931

*Chromoretinography. J. L. Pavia.—p. 1169.
Study of Clinical Meteorology. A. Dias.—p. 1179.
Cancer of Penis. A. J. Dávalos.—p. 1189.
*First Case of Sprue in Peru. C. Monge.—p. 1197.

Chromoretinography.—Pavia asserts that chromophotography is a valuable complement to retinography and has been awaited for a long time by all ophthalmologists who recognize the importance of graphic documents in teaching as well as in diagnosis and prognosis. Although the retina cannot be completely photographed, chromoretinography permits a differential diagnosis between lesions of the choroid and those of the retina; also certain physiologic changes may be in this way made clearer. The important points in the technic are as follows: 1. A continuous current with the greatest intensity possible for the resistance is used. 2. The orange yellow screen is placed in the slit of a Zeiss retinograph. 3. Under complete darkness, the color film is placed in the plate holder, which is then placed in the retinograph. 4. The fixator is placed in a position horizontal with the eye. 5. The obturator of the retinograph is placed at the letter B (the bulb being ready to photograph); the time of exposure may vary from three to six seconds according to the following rule: (*a*) three seconds for the intensely red fundi without pigment lesions and with little or no glittering reflections, (*b*) four seconds for fundi with white lesions, (*c*) five seconds for fundi with fine or hemorrhagic pigmentations, and (*d*) six seconds for all fundi with numerous glittering reflections. 6. After each sitting the patient is allowed to rest about five minutes, with the eyes closed. 7. Before one takes the chromoretinographs, it is advisable to take at least two retinographs with ordinary film.

Case of Sprue in Peru.—Monge's patient was a Spaniard who, after living in a tropical climate several years, presented a syndrome characterized by pernicious anemia; change in character with presence of psychic depression; fermentative diarrhea with pasty, frothy whitish extraordinarily abundant stools; marked tympanism; burning of the tongue and rectum; atrophic and aphthous glossitis; decrease in weight by 30 Kg. (66 pounds); progress of the disease for a year and a half in spite of slight remissions; roentgen signs of lithiasis of the gallbladder, and absence of free hydrochloric acid in the gastric juice. Treatment included a diet rich in vitamins, and administration of 10 Gm. of a powdered extract of calf's liver each day. The condition of the patient changed radically in several days and he was soon cured. The author believes this case worthy of attention, since sprue is not frequently encountered in South America.

Annali dell'Instituto Maragliano, Genoa

1: 241-316 (Sept-Oct) 1931

Pharmacologic Researches on Sputums and Other Waste Material Supplied by the Maragliano Institute. A. Benedicenti.—p. 241.
Chemical and Physicochemical Researches on Ultrapeptones. Laura Nicolini.—p. 269.
*Tuberculosis: Thirty Cases. V. Marchisio.—p. 279.
Disturbances of Carbohydrate Exchange in Pulmonary Tuberculosis. R. Agnoli.—p. 305

Thirty Cases of Tuberculosis.—Marchisio gives detailed histories in thirty cases of tuberculosis and calls attention to some of the interesting features; for example, in case 15 (married domestic, aged 20). The first manifestation of the disease was hemoptysis, which was not followed or preceded or accompanied by any other symptom that would direct attention to the respiratory system, nor by any symptoms of toxemia. The only notable fact that, according to the health officer who attended the patient, would explain the hemoptysis was the suppression of the menstrual flow, which previously had been regular. For a period of eleven months the patient felt well, following which a short (one month) period of tuberculous toxemia developed, which was succeeded by signs characteristic of pulmonary localization. There was a marked feeling of weakness, anorexia, persistent headaches and lingering chills, followed by slight elevations of temperature, from 37.4 to 37.6 C. (99.3 to 99.7 F.). There was no cough, catarrh, or thoracic pain. After a month a cough developed, accompanied by a slight expectoration and intense thoracic pains. This was an instructive case, as the hemoptysis appeared suddenly while the patient was in good health and it was not associated with any other symptom. For nearly a year the general condition had remained excellent, following which the frankly toxemic syndrome developed, lasting a month, whereupon the thoracic symptoms revealed lesions of the respiratory apparatus and the tuberculous nature of the disease.

Archivio Italiano di Chirurgia, Bologna

30: 361-467 (Nov.) 1931

*Phrenicectomy in Treatment of Pulmonary Tuberculosis. G. Gullotta.—p. 361.
Resection of the So-Called Presacral Nerve. G. Canavero.—p. 393.
Sympathectomy Applied to Arteries That Supply the Pancreas. L. Caporale and C. de Fermo.—p. 422.
Osteoblastoma of Abdominal Wall. R. Pecco.—p. 441.
Effects of Ligation of Deep Veins on Formation of Callus. A. Bich.—p. 449.

Phrenicectomy in Treatment of Pulmonary Tuberculosis.—Gullotta traces the history of resection of the phrenic nerve for the surgical treatment of pulmonary tuberculosis and then describes the mode of action, the indications and effects of the intervention. The author gives the clinical tables concerning his series of cases consisting of forty-two patients operated on by phrenicectomy during the years 1929-1930. In view of the encouraging results secured, he advises this mild intervention, which, performed after a thorough study of the given case and according to proper indications, comes to be an effective weapon of defense in the fight against pulmonary tuberculosis.

Haematologica I. Archivio, Pavia

12: 635-739 (No. 7) 1931

*Etiology and Systematic Changes in Hematopoietic Organs in Acute Lupus Erythematosus. J. Schaumann and P. Introzzi.—p. 635.
Hemocytoblastic Syndrome in Pregnancy: Case. E. Debiasi.—p. 719.

Changes in Hematopoietic Organs in Acute Lupus Erythematosus.—Schaumann and Introzzi describe four cases of acute lupus erythematosus. In the three cases in which a necropsy was performed they found lesions in the lymph nodes, the tonsils, the spleen and the bone marrow. In the fourth case, the epitrochlear lymph node, the only lymphatic organ that could be examined, was likewise affected. Clinical considerations and, particularly, researches of a histologic, serologic and bacteriologic order, likewise the discovery in the blood, in two of the cases, of a non-acid-resistant bacillus representing no doubt a form of tubercle bacillus, led them to the

following conclusions: Acute lupus erythematosus is not an exclusively cutaneous process but must be regarded as a manifestation of a generalized disease of a tuberculous nature, which may reveal itself by the presence of the bacillus in the blood. There are localizations of the bacillus in the hematopoietic apparatus, which, if not always macroscopic are at least microscopic. These localizations present sometimes the form of ordinary tuberculosis and sometimes the form of a granulomatous, nonfollicular tissue, which may resemble the tissue of malignant granulomatosis.

Rivista di Patologia e Clin. d. Tubercolosi, Bologna

5: 1025-1111 (Dec. 31) 1931

*Primary Tuberculosis of Spleen. E. Greppi.—p. 1025.
Cutaneous Reactivity in Tuberculosis. G. Ferrari.—p. 1037.
Is Acute Polyarthritis of Tuberculous Origin? G. Nannini.—p. 1042.
*Blood Changes in Experimental Tuberculosis in Guinea-Pigs. A. M. Michelazzi.—p. 1047.
Tuberculous Pulmonary Sclerosis. A. Sega.—p. 1058.
Complement Potency of Blood Serum in Experimental Tuberculosis. G. Borsalino.—p. 1070.
Indications and Results of Gold Therapy in Pulmonary Tuberculosis. V. de Benedetti and F. Tocco.—p. 1076.

Primary Tuberculosis of Spleen.—Greppi thinks that in all probability the tuberculous infection reaches the spleen through the blood, the lymph centers usually being attacked secondarily, after the splenic focus develops. It is not impossible, however, that bacilli may be brought in by the ascending route; namely, by way of the lymph nodes and, reaching the hilus and the capsule of the spleen, establish connections not only with that organ and other viscera but also between that organ and the peritoneum. The participation of the liver in primary tuberculosis of the spleen was demonstrated by the experimental researches of P. Foà, who provoked a diffuse tuberculosis of the liver, with epithelioid nodules distributed along the interlobar vein branches by injecting virulent bacilli into the parenchyma of the spleen. Successive removal of the spleen or ligation of the vena lienalis modifies the character of the process in the direction of the fibroblastic type and attenuates the activity of the infection with more likely survival of the experimental animal. This method of propagation of the process from viscus to viscus, with involvement of the intermediate veins and lymph nodes, is now generally accepted also in human pathology; on the other hand, with regard to the liver, the clinical and experimental problem is complicated by the tendency of the tuberculous process to assume a diffuse sclerotic type in preference to the specific nodular type. The polymorphic nature of primary tuberculosis of the spleen makes the clinical diagnosis difficult, and heretofore it has been nearly always erroneous, taking the direction of other forms of splenomegaly. In many cases the early diagnosis is necessarily confined to the general conception of a clinically primary splenomegaly, up to the time of the operative control or the appearance of later signs of diffusion or of activity of the process. The infectious nature of the disorder is, however, usually open to suspicion if attention is given to the general and local symptoms (slight fever, pains, allergic reactions), the frequent polynucleosis and the pathologic hemolysis (excess of bile in the intestine). Thus, in all cases of splenomegalic hyperglobulia of a symptomatic type, especially if associated with hemodestructive signs, tuberculosis of the spleen should be suspected and clinical and biologic researches should be instituted (reaction to tuberculin, thermic curve). The prognosis is serious; even in cases with a chronic course, active evolution of the process eventually develops, and usually it is relatively rapid in comparison with the diagnosis, which, mostly uncertain or erroneous until the disease is far advanced, compromises through delay the possibilities of treatment. Exacerbation takes the form of cachexia or diffuse infection of the liver and lymph nodes. Medical therapy may be begun in any suspected case, and particularly in the advanced forms. The usual criteria for the hygienic, pharmacologic and physical therapeutic treatment of extrapulmonary tuberculosis with a subacute chronic course hold good. But no medical recovery appears as yet to have been brought about, and a doubt arises as to whether a radical intervention should be delayed until the appearance of later convincing diagnostic signs. In practice, splenectomy, resorted to usually on the basis of an erroneous diagnosis, has been frequently successful, so much so that Leotta considers splenectomy equivalent to nephrectomy in renal tuberculosis. A grave obstacle to the success of the operation has been sometimes the development of fibrous perisplenitis, as in the cases of Ciaccio and of Hawkes. Roentgen therapy may be indicated.

Blood Changes in Experimental Tuberculosis.—Michelazzi, studying in the guinea-pig the changes in the blood following the injection of human tubercle bacilli and of various tuberculous material (expectorations, pleural fluids), found a slight decrease in the number of red corpuscles, a slight pseudoeosinophil polynucleosis and a lowering of the lymphocyte-monocyte ratio. In animals in which products that were known to be tuberculous, such as pleural fluids, did not produce manifest lesions, the lymphocyte-monocyte ration, after an initial lowering, tended to return to normal. The author discusses the prognostic significance of these blood changes and their possible application to the biologic diagnosis of tuberculosis.

Revista de Radiologia Clinica, Porto Alegre

1: 53-138 (Dec.) 1931

*Aorticopulmonary Arteritis. T. Mariante and P. Maciel.—p. 59.
Radiologic Complex of Appendicopathies. S. Pastous.—p. 81.
Normal and Pathologic Physiology of Bones. A. Greco.—p. 105.
Biologic Action of Roentgen Rays on Cells. S. Pastous.—p. 113.
Roentgen Examination of Petromastoid Region. P. Maciel.—p. 121.

Aorticopulmonary Arteritis.—Mariante and Maciel give the name of aorticopulmonary arteritis to a disease, not previously described, characterized by a syndrome of association of clinical symptoms and roentgen signs pointing out the presence of a simultaneous and primary involvement of the aorta and the pulmonary artery in the same pathologic process. Reasons of embryologic anatomy and of a clinical order explain the development of the disease, which is well differentiated from the more similar conditions, such as either primary or secondary aortitis, sclerosis of the pulmonary artery, and any association of secondary lesions in both arteries (the aorta and the pulmonary artery). The disease, as a rule, is more frequent in women than in men and appears in persons between 22 and 40 years of age. The causal factor is an infection (probably syphilis). The disease has been considered as a syphilitic disease with a selective localization in the aorta and the pulmonary artery. The predominant clinical symptoms are: functional disturbances caused by unbalance of the autonomic nervous system, a constant pain in the second intercostal space (at the left side of the sternum), accentuation of the second heart sound on auscultation at the bases of the aorta and the pulmonary artery and abnormally large beats of a segment (the arch), of the pulmonary artery. The roentgen picture is typical of aortitis. Nine cases are reported. The roentgen observations of the cases are given in illustrations.

Siglo Médico, Madrid

89: 49-76 (Jan. 16) 1932

*Simple Technic for Intrapulmonary Therapy: A Modification of García Vicente's Method. V. de Pablo.—p. 49.
Physiology of Maxillary Sinus. J. Jiménez Cervantes.—p. 55.

Simple Technic for Intrapulmonary Therapy.—De Pablo calls attention to the advantages of intrapulmonary therapy by endobronchial injections of medicinal liquids through a catheter placed in the trachea, in pathologic conditions of the respiratory tract. The pulmonary absorption is more rapid than the pleural, peritoneal or subcutaneous absorption of medicinal substances, which, when placed in direct contact with the lung, are rapidly absorbed and appear in the circulation shortly after they are introduced. The author reviewed the several methods of direct intrapulmonary therapy and found that the best method for this purpose is García Vicente's method, which follows a technic of intubation of the larynx and is applied, with some variations in the technic, to both intrapulmonary medication and irrigation of the lung. The technic and results were described in the *Deutsche medizinische Wochenschrift* (**54**: 1835 [Nov. 2] 1928; abstr. THE JOURNAL, Jan. 19, 1929, p. 273), in *Siglo médico* (**82**:317 [Feb. 9] 1929; abstr. THE JOURNAL, April 6, 1929, p. 1224) and in the *Presse médicale* (**37**:1266 [Sept. 28] 1929; abstr. THE JOURNAL, Dec. 7, 1929, p. 1844). The author shows in illustrations a modified technic by means of which direct intrapulmonary

medication is easier than with the orginal technic of García Vicente. In the modified technic local anesthesia of the pharynx, the larynx and the trachea is used. Forceps whose blades are hollow cones are guided into the mouth by the left index finger. When the conical blades are in contact with the index finger, the glottis has not as yet been passed. A sensation of dominated resistance marks the passage of the conical blades of the forceps beyond the glottis. At that time, with the right hand a number 15 Nélaton catheter is introduced and then the forceps are removed. The changes in the patient's voice and respiration give assurance of the proper position of the catheter in order to make a transglottic injection of the medicinal substances. The therapeutic results of intrapulmonary therapy according to the technic modified by the author will be the basis for the author's further studies.

Archiv für klinische Chirurgie, Berlin

168: 439-810 (Jan. 2) 1932

*Blood Pressure During Spinal Anesthesia. H. Hadenfeldt.—p. 439.
Hemorrhoids and Their Operative Treatment. D. Sarafoff.—p. 486.
"Rule of Other Route" in Action of Products of Disintegration on Regeneration. R. Fränkel.—p. 524.
Diagnosis and Extirpation of Mediastinal Teratoma That Had Perforated into Bronchial Tree. O. Satke and O. Susani.—p. 537.
*Operative Treatment of Inflammatory Constrictions of Rectum. B. K. Finkelstein.—p. 547.
Twin Pathology of Mamma. W. Birkenfeld.—p. 568.
Fractures of Olecranon with Especial Consideration of Late Results. M. J. Madlener and B. Wienert.—p. 577.
Etiology of Fibro-Adenomatosis of Mamma. E. Orbach.—p. 585.
Articular Chondromatosis. M. Bastos Ansart and J. D. Got.—p. 597.
*Sympathetic Nervous System of Vermiform Appendix in Chronic Appendicitis. J. G. Sawitzkij.—p. 610.
Operative Treatment of Volvulus of Sigmoid. W. I. Muschkatin.—p. 635.
Pseudomyxoma Peritonaci. C. M. Behrend.—p. 651.
Case of Congenital Cystic Kidney in the New-Born. G. Steinberg.—p. 658.
Simultaneous Occurrence of Nonperforative Biliary and Pancreatic Peritonitis Without Disease of Pancreas; Impairment of Biliary Passages by Pancreatic Ferments. W. Brackertz.—p. 665.
Rare Dislocation Fracture of Elbow Joint. R. Bonn.—p. 683.
Progress in Methods of Anesthesia: Attempts of Direct Narcotization of Central Nervous Organs. O. Zeller.—p. 690.
Clinical Aspects and Surgical Treatment of True Duodenal Diverticula. H. Hanke.—p. 720.
*"Bleeding Mamma" in Its Relation to Cancer of Mamma. F. Klages.—p. 743.
To What Extent Can the Renal Parenchyma Be Removed? R. Chwalla.—p. 762.
Ileus in Carcinoma of Rectum. R. Friedrich.—p. 772.
Influence of A, B, C and D Vitamins and of Calcium and Phosphorus on Healing of Bone Fractures. M. N. Roegholt.—p. 783.

Blood Pressure During Spinal Anesthesia.—Hadenfeldt points out that spinal anesthesia is always accompanied by a reduction in blood pressure. He relates clinical observations on several hundred cases and shows numerous charts of blood pressure curves. On the basis of his observations he concludes that a certain reduction is normal but that there are some cases in which there are irregular reductions. He then discusses the causes of both types of reduction and is convinced that the abnormal reduction is caused by factors that are detectable by careful observation and that are generally avoidable. The regular blood pressure phenomenon is caused besides by the exclusion of nervous powers that regulate the blood pressure also by the absence of humoral blood pressure support. Accordingly, the blood pressure phenomenon should be counteracted from the nervous and from the humoral side.

Operative Treatment of Inflammatory Constrictions of Rectum.—According to Finkelstein, strictures of the rectum are comparatively rare. In the majority of cases they are the results of a trauma (usually of a surgical intervention), or of an infection, which may have been caused by gonococci, by the toxins of the soft chancre, and more rarely by syphilis, tuberculosis or dysentery parasites. Occasionally the stricture may be the result of the destructive action of radium. During dysentery it may happen that large pseudotumors form on the intestinal wall. These formations may obliterate the lumen almost completely, but a palliative operation counteracts them. The stricture is most frequently found in the lower portion of the rectum. Its extent upward can be determined to a certain degree by roentgenoscopy. In regard to the treatment, the author states that conservative treatment is sufficient only for slight and pliable strictures. He asserts that of the palliative interventions colostomy gives the best results. However, as the method of choice, he considers resection, more particularly the method of Kraske-Hochenegg.

Sympathetic Nerves of Appendix in Chronic Appendicitis.—Sawitzkij investigated the relation of the changes in the sympathetic nervous system of the vermiform appendix during chronic appendicitis to the reactions in the sympathetic system in general, and to the reaction of the sympathetically innervated muscles that control the dilatation of the pupil. On the basis of his studies he reaches the following conclusions: 1. The diagnosis of chronic appendicitis is difficult in spite of the fact that numerous symptoms and "points" are mentioned, which are due to pains in the region of the cecum and of the vermiform appendix. 2. In chronic appendicitis the glandular and the endocrine apparatus of the vermiform appendix are mainly involved and this is followed by hypergenesis of the sympathetic fibers. 3. In especially severe cases of chronic appendicitis the hypergenesis of the sympathetic fibers reaches the degree of neuroma development. 4. The pains after appendectomy can be ascribed to the formation of such neuromas in the stump of the vermiform appendix. They are comparable to amputation neuromas. 5. In organs other than the vermiform appendix, which are located in the right side of the abdomen or the pelvis, there is neither a hypergenesis of the sympathetic nerves nor a dilatation of the pupils of the right eye. 6. In chronic appendicitis a dilatation of the pupil of the right eye is found in 93 per cent of the cases, of the left eye in from 4 to 6 per cent. 7. Because Buchmann made extensive studies on this pupillary symptom of appendicitis, the author thinks that it should be designated as Buchmann's symptom. 8. When anisocoria is indistinct, it should be provoked by light or by pain reactions. 9. In from two and one-half to seven months after the operation, anisocoria disappears again. 10. Between the condition of the sympathetic nervous system of the vermiform appendix and the condition of the right pupil there exists a parallelism. 11. The development of a neuroma in the vermiform appendix gives certain pointers for the technic of appendectomy. If there are marked changes in the appendix and in the mesenteriolum, the latter should be resected for a certain distance. Otherwise there is the possibility that the neuromas remain and that the pains persist after the appendix has been removed (appendicitis without appendix). 12. In acute or subacute cases of appendicitis a hypergenesis of the sympathetic fibers is not noted and prolonged anisocoria is likewise absent.

"Bleeding Mamma" in Its Relation to Cancer of Mamma.—Klages reports seven cases of bleeding mamma. In all of these the histologic examination revealed cyst formation to be the cause of the hemorrhage. The processes of epithelial proliferation, which are characteristic for this disease of the mamma, may, partly by the indirect way of the formation of multiple intracanalicular cystadenomas, lead in transitional forms to cancer of the mamma. The relations and the interdependence of the three diseases cystic mamma, multiple cystadenomas, and cancer of the mamma are discussed. Although cystic mamma can be considered as benign in the majority of cases, its epithelial proliferation processes produce a local predisposition for cancer, which, under the influence of an irritation, may change into true blastoma growth. In the last part of the article the author describes the surgical method, which, in the university clinic in Halle, is employed in the treatment of bleeding mamma. This method is based on the results of the microscopic examination.

Deutsche medizinische Wochenschrift, Leipzig

58: 81-120 (Jan. 15) 1932

Clinical Aspects of Forms of Movements: Leading Syndrome in Diagnosis and Therapy of Neuropathy During Childhood. P. Karger.—p. 81.
Observations on Elbows of Expert Tennis Players. W. Knoll.—p. 84.
Diagnosis of Cystic Lung. C. Mumme.—p. 86.
*Clinical Significance of Demonstration of Tubercle Bacilli in Blood. L. Popper.—p. 89.
*Tubercle Bacillemia in Tuberculosis of Skin. F. Koch.—p. 90.
Use of New Salt Mixture in Dietary Treatment of Patients with Lupus. S. Bommer.—p. 91.

Significance of Tubercle Bacilli in Blood.—Popper first directs attention to Loewenstein's method (*München. med. Wchnschr.* **77:**1662 [Sept. 2] 1930; abstr. THE JOURNAL, Dec

6, 1930, p. 1787), by which tubercle bacilli can be demonstrated in the blood stream and then relates his own experiences with this method. He observed that tubercle bacillemia develops after acute febrile diseases, evidently as a manifestation of the activation of a resting tuberculous process. Whether the tuberculosis will then become generalized cannot always be foreseen, but frequently the activation is only temporary. This is probably dependent on immunity conditions. The results obtained with Loewenstein's culture method indicate to what extent acute febrile conditions activate latent tuberculous processes.

Tubercle Bacillemia in Tuberculosis of Skin.—Koch employed Loewenstein's method for the detection of tubercle bacilli in the blood in twenty-five patients, twelve of whom had lupus vulgaris, two granuloma annulare, two erythema induratum, four lupus erythematosus, four tuberculosis verrucosa cutis and one tuberculous epididymitis. The results were negative in all cases, and the author points out that in this respect his results were the same as those obtained by Kallós and Pollak. He concludes that Loewenstein's culture medium is excellently suited for the cultivation of tubercle bacilli, but in spite of this he could not demonstrate their presence in any of the cases named. He is unable to give the reason why his results differ from those of Loewenstein.

Klinische Wochenschrift, Berlin

11: 89-136 (Jan. 16) 1932

Heart Action and Bodily Exertion. H. Herxheimer.—p. 89.
Diagnostic Value of Combined Functional Test of Stomach. N. Hennig and E. Bach.—p. 92.
*Elimination of Hormones of Anterior Lobe of Hypophysis in Urine During Endocrine Disturbances. H. U. Hirsch-Hoffmann.—p. 94.
Serologic Differential Diagnosis Between Tuberculosis and Syphilis. E. Witebsky and R. Klingenstein.—p. 97.
Nutrition and Procreation. H. Reiter.—p. 100.
Significance of Atypical Capillary Pictures in Incretory Disturbances. K. A. Bock.—p. 102.
*Treatment of Agranulocytosis by Means of Roentgen Irradiation and Blood Transfusion. A. Hartwich.—p. 104.
Dosage in Quartz Lamp Irradiation. F. Holtz and T. von Brand.—p. 108.
Simplified Method of Determination of Rest Nitrogen by Direct Nesslerization. A. Lublin.—p. 110.
Prolegomena to Theory of Immunity. W. Rosenthal, Göttingen and Magdeburg.—p. 112.
New Points of View in Pathology and Therapy of Renal Insufficiency. G. von Farkas.—p. 112.
Occurrence of "Tetanigenic Substance" in Urine of Spasmophilic Nurslings. W. Hertz.—p. 113.
Rôle of Prothrombin and Heparin in Proliferation and Differentiation of Tissues. Z. Zakrzewski.—p. 113.
Mycotic Endocarditis and Endarteritis of Pulmonary Artery in Open Ductus Arteriosus. R. Fischer and M. Schur.—p. 114.
Atropine Therapy of Postencephalitic Conditions and Related Diseases. H. Cohn.—p. 116.

Hormones of Anterior Lobe of Hypophysis in Urine.—Hirsch-Hoffmann reports and discusses ten case histories which indicate that an increased elimination of the hormones of the anterior hypophysis in the urine is noticeable in diseases which, according to the present status of scientific research, are of hypophyseal origin or in which involvement of the hypophysis is probable. He admits that for a conclusive evaluation his material is not large enough, but he thinks that his observations justify further investigations on this problem.

Treatment of Agranulocytosis by Roentgen Irradiation.—Induced by the reports on the effectiveness of roentgen treatment in agranulocytosis, Hartwich tried it in several, especially in relapsing cases of agranulocytosis. He observed an increase in the leukocytes and a larger number of granulocytes, but this improvement was only temporary and the same effect could be obtained with injection of milk and of an antigen mixture. After roentgen irradiation as well as after milk injections the number of leukocytes decreased again to the pretherapeutic level within a few days. Blood transfusion, however, always effected a prompt change in the disease aspects. There is a critical or a lytic abatement of fever and a rapid improvement in the necrotic processes of the throat. The total number of leukocytes and also the granulocytes increase under the influence of blood transfusion, but this increase is likewise often only temporary. In these instances it is surprising how little the decrease in the temperature, the improvement in the general condition and the healing of the necroses of the skin and of the mucous membrane are dependent on the total number of the leukocytes. On the basis of his experiences the author concludes that, because of its favorable influence on the high fever and on the general condition, blood transfusion should be resorted to more frequently in cases of agranulocytosis than was formerly customary. Four patients who came under his observation in the last six months, and in whom blood transfusion was done early, all recovered.

Medizinische Klinik, Berlin

28: 105-140 (Jan. 22) 1932. Partial Index

Dyspnea. Goldscheider.—p. 105.
Hepatolienography. A. Beutel.—p. 112.
*Course and Prognosis of Syphilitic Mesaortitis. R. Hift.—p. 114.
Problems of Accommodation and Changes in Refraction. R. Gutzeit.—p. 119.
Short Electric Waves in Biology and in Medicine. E. Schliephake.—p. 120.
New Ointment Based on Principle of Micro-Irradiation for Treatment of Wounds. A. Marconi.—p. 125.
Evaluation of Contrast Mediums Used for Intravenous Pyelography. K. G. Stenzel.—p. 125.

Prognosis of Syphilitic Mesaortitis.—Hift states that the complaints for which patients with mesaortitis seek medical advice include all forms of cardiac disturbances. Observations in 231 cases convinced him that after symptoms have once become manifest the fate of a patient is largely dependent on whether he receives antisyphilitic treatment or not. For under the influence of antisyphilitic treatment the symptoms disappear and there is a possibility of complete clinical cure. At any rate, the disease does not become exacerbated under this therapy; while in many patients who remain without treatment, the disorder is progressive, in that valvular lesions and aneurysms develop. In the majority of cases, antisyphilitic therapy checks the progress of the disease process. However, in some cases exacerbations set in simultaneously with the treatment and several patients died. Analysis of these cases revealed that they all were extremely severe. Cardiac insufficiency was present, which sometimes was combined with angina pectoris. Of particular significance the author considers the fact that in the cases which had a fatal outcome the roentgenologic aspect of the aorta was frequently narrow. In general he gained the impression that if the vessel appears wide the prognosis is favorable, but if it is narrow the prognosis is unfavorable. The author emphasizes that in syphilis of the aorta antisyphilitic therapy should be given with great care, for in some of the cases, which had a fatal outcome after antisyphilitic therapy, carelessness on the part of the physician was a contributing factor. It is necessary that the least reaction in the course of the antisyphilitic treatment should be given careful attention, and that measures be taken to avoid them, such as prolongation of the intervals, reduction of the doses, selection of a new therapeutic substance, or even interruption of the antisyphilitic treatment. The author considers the height of the blood pressure of no especial importance for the prognosis of syphilitic mesaortitis.

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59: 257-320 (Jan. 30) 1932

Appendicitis in Small Children. G. Lotheissen.—p. 259.
*Cause of Diverse Results of Colectomy in Congenital Idiopathic Dilatation of Colon (Hirschsprung's Disease). A. W. Fischer.—p. 261.
Diagnosis of Renal Tuberculosis by Means of Acid Alkali Elimination Test. E. Bors.—p. 264.
Atypical Location of Gallstones in Duodenal Wall. W. Siemens.—p. 267.
Therapy of Contracted Flatfoot. H.-G. Schwarz.—p. 270.
Local Anesthesia with 0.5 Per Cent Procaine Hydrochloride Epinephrine Solution and Fatal Tissue Injury. E. Boerner.—p. 272.
New Plaster-of-Paris Cast. W. Nissel.—p. 274.
Bandage for Relieving Tension of Abdominal Walls After Laparotomy. W. Capelle.—p. 275.

Cause of Diverse Results of Colectomy in Congenital Idiopathic Dilatation of Colon.—Fischer points out that the permanent results of the surgical treatment of congenital idiopathetic dilatation of the colon are often unfavorable. He himself observed two cases in both of which a relapse developed. On the other hand, there are some authors, particularly Anschütz, who report favorable results. A comparison of the surgical methods convinced the author that the valve formation at the transition of the sigmoid into the rectum is the cause of the relapses, and that Anschütz's results were favorable because he employed the exteriorization method; for by the exteriorization of the heavy Hirschsprung colon traction is exerted, so that valve formation is prevented. In the conclusion the author

states that only methods of resection that avoid valve formation should be employed in the treatment of congenital idiopathic dilatation of the colon. This is done by the exteriorization as employed by Anschütz, by the invagination procedure of Perthes, and by the invagination method of Grekow-Kümmell.

Polska Gazeta Lekarska, Lwów

11: 41-60 (Jan. 17) 1932

*Mechanism of Increased Hemolysis and Antihemolytic Action of Liver Diet in Pernicious Anemia. T. Tempka and Braun.—p. 41.
Modern Oxygen Treatment as a Nonspecific Stimulation Agent. Z. Danielski.—p. 48.
History of Medicine as a Subject for Investigation and Teaching. T. Bilikiewicz.—p. 51.
Two Rare Cases of Disease of Blood (Hemorrhagic Aleukia; Agranulocytic Angina). M. Szajna.—p. 55.

Mechanism of Antihemolytic Action of Liver Diet in Pernicious Anemia.—Tempka and Braun set out to ascertain the direct cause of the reduced resistance of erythrocytes in pernicious anemia to hemolytic agents and the fluctuation of resistance in the course of liver diet. Saponins were used as hemolytic agents and hypotonic solution of sodium chloride as a control agent. The result of this stage of the experiment shows that: 1. The resistance to saponins was lowered in all cases. 2. The range of resistance was lowered uniformly. 3. Liver diet did not produce an appreciable change in the picture. 4. The range of resistance was slightly raised after treatment. 5. The resistance to solution of sodium chloride was uniform and unchanged after treatment in all cases of other anemias. In pernicious anemia the observations differed materially; there was marked reduction of resistance to saponins; the erythrocytes of the peripheral circulation behaved identically like those from bone marrow, and the resistance to sodium chloride was unchanged by liver diet. After continuous feeding (from seven weeks to seven and one-half months) the resistance was raised to normal in all cases. The reduction of resistance to saponins, which is removed by liver feeding, is a definite differentiating sign between pernicious and all other anemias. The second part of the experiment was to find what influence, if any, the intestinal flora plays in hemolysis in pernicious anemia. It was noted that the exotoxins of the complete flora of individuals with pernicious anemia hemolyze in vitro their own erythrocytes and also the erythrocytes of other similar patients as well as of normal persons; but this characteristic is not constant. The liver feeding raises the resistance of erythrocytes to the hemolytic action of homogenous and heterogenous exotoxins. The author reaches the following conclusions: The cause of the increased hemolysis rests in reduced resistance of the erythrocytes *a priori* on some chemical basis; it is impossible from these experiments to ascertain whether the liver diet supplies a hormone, a vitamin or a chemical substance essential to erythropoiesis, but it is certain that under the influence of liver diet the bone marrow produces normal erythrocytes.

11: 61-80 (Jan. 24) 1932

*Symptomatology of Stenosis with Occlusion of Lumen of Superior Vena Cava. (C'tn.). K. Wagner.—p. 61.
Cytologic Blood Picture in Extra-Uterine Pregnancy. S. Mossor.—p. 65.
*Modern Treatment with Oxygen as Nonspecific Stimulative Agent (Oxyhemotherapy). Z. Danielski. (C'cn.).—p. 70.
"Insatiable" Pneumothorax. Z. Tomanek.—p. 74.

11: 81-96 (Jan. 31) 1932

*Symptomatology of Stenosis with Occlusion of Lumen of Superior Vena Cava. (C'cn.). K. Wagner.—p. 81.
Researches on Cause of Contractions of Heart. B. Szabuniewicz.—p. 85.
*Treating Diabetes with Vitamin B. A. S. Melcer.—p. 89.
Unusual Injury to Skull by Bolt. W. Dżułyński.—p. 91.

Stenosis with Occlusion of Lumen of Superior Vena Cava.—In the four cases of total stenosis of the superior vena cava observed by Wagner, the following symptoms are described: cyanosis and edema of the face, augmented after coughing or physical exertion; dyspnea; dilatation of the superficial veins of the thorax and abdomen, and direction of the venous blood flow in the dilated veins from above downward. Next in frequency, in three cases out of four, are the exophthalmos and persistent pulmonary hemorrhages; also edema of the skin of the thorax. The author reviews the literature on the subject of the collateral circulation when the lumen of the superior vena cava becomes occluded and finds that the topography of the dilated superficial veins is according to frequency as follows: anterior thorax, 70 per cent; neck, 64 per cent; abdomen, 47 per cent; upper extremities, 23 per cent; posterior thorax, 12 per cent. Experimentally, by ligating the superior vena cava just before the junction of the azygos vein in the first cadaver, and close to the heart in the second, and by subsequent injection he found the deep systemic venous flow to follow through the renal, suprarenal, spermatic and internal iliac veins into the inferior vena cava. In the second experiment, with the occlusion of the superior vena cava close to the heart, the azygos vein could not empty normally and the flow assumed the reversed direction; i. e., from above downward, into the inferior vena cava. The superficial veins of the dorsal side of the thorax showed also in the second experiment much more prominence than in the first. Thus the author concluded that to a certain degree the very topography of the markedly dilated superficial veins (dorsal thorax) has a diagnostic value as to location of the occlusion in the superior vena cava (above the junction of the azygos vein; i. e., close to the heart). Postmortem examination in one of his cases confirmed this observation. The article touches also on the etiology, pathogenesis and the usually hopeless prognosis of the described condition.

Oxyhemotherapy.—Danielski emphasizes the importance of oxidation and sufficient oxygen supply for the increase of antituberculosis resistance, especially in the initial stages of tuberculosis of the respiratory tract and in anoxemia. In his opinion the aerosanatoriums, the modern pneumatic chambers equipped with inhalation apparatus, based on the newest medical discoveries in physics, chemistry and physiology of respiration help to increase the natural immunity of the cells, tissues and the blood by a nonspecific, external, stimulative agent—the oxygen. From the two main factors of this therapy, oxygen and its carrier, the blood (haema)—the group name for the whole new branch has been coined: oxyhemotherapy.

Vitamin B in Diabetes.—Melcer obtained very good results in six cases of diabetes, including one classic case, prescribing besides the restricted diet vitamin B in the form of yeast, 10 Gm. daily; i. e., 5 Gm. twice daily. He summarizes as follows: 1. The treatment of diabetes with vitamin B (yeast) leads to cure or at least to a remarkable improvement caused by stimulation of mechanism regulating the oxidation of carbohydrates. 2. The therapeutic action of vitamin B exceeds the period of actual treatment and after the cure the yeast may be omitted. 3. This treatment with vitamin should last from six to eight weeks. It may prove unsatisfactory only in those cases of diabetes in which there is excessive formation of sugar from glycogen besides the disturbance of oxidation of carbohydrates.

Geneeskundige Gids, The Hague

10: 125-148 (Feb. 5) 1932

*Nasal Lithiasis. J. de Graaf.—p. 125.
Early Pyelitis of Pregnancy: Case. J. A. Bos.—p. 137.

Nasal Lithiasis.—Only five cases of nasal lithiasis were found by de Graaf among 22,000 patients attended to in the polyclinic of Groningen during the last seven years. The author's description of these five cases, and of one other case reported from Dutch East India, offers, besides the presence of stones and the nasal obstruction, a noteworthy symptom in five of the six cases: the foul odor of the nasal discharge. The stones are principally composed of calcium phosphate (up to 70 per cent) with some calcium carbonate, magnesium phosphate and carbonate, sodium chloride, carbonate and oxalate and some iron; organic substances are present in quantities varying from 5 to 35 per cent. The largest stone was 7 cm. long and weighed 120 Gm. Nasal lithiasis occurs principally in women. Complications are those resulting from obstruction and rhinitis, such as otitis, pharyngitis, bronchitis, sinusitis and even meningitis; there is atrophy of the turbinate through compression by the stone, and perforation of the septum may result. Diagnosis is usually easy to make but may be rendered difficult by the presence of necrosis of the mucosa and of excessive granular formation, which may raise the suspicion of tuberculosis, syphilis or tumor. The etiology of nasal lithiasis is still uncertain but some authors advance the theory that masses of fungi form the original nucleus of the stone.